

# HOW TO AVOID THE PITFALLS



SELECTION AND EVALUATION, THOUGH A SMALL PART OF THE PROCESS, IS VITAL WHEN SETTING UP A DERIVATIVES TRADING SYSTEM, SAYS **DEAN BUCKNER** OF THE FINANCIAL SERVICES AUTHORITY.

**A**s a supervisor of banks and investment firms trading derivatives I am often called to look at systems that failed. I am still surprised at the way firms buy IT systems that fail even before they are switched on. This, in most cases, was not because the systems were faulty in any way, but because they were designed to do something quite different from what the purchasers wanted. Given the nominal expense of failure – a typical front office derivatives and risk management system can cost up to \$15m over its implementation time scale – you would think the initial choice of a system would be one that purchasers would work on very hard, and would occasionally get right.

Yet very often it is this part of the project that goes wrong. Why is it so hard to choose a system that will work? The issue becomes particularly important in the 2000s, as vendor products to deal with credit derivatives and exotic derivatives begin to appear in the market. This article focuses on the process of choosing a system.

**CONSTRUCTING A LONG LIST.** All guides on the subject rightly place importance on defining user requirements, before constructing a list of systems that may meet those requirements. However, since this is a separate subject in its own right, and since published material is already available, I shall not discuss this step in detail. Nonetheless, it is essential that the buyer thoroughly understand its requirements (in particular, whether there is any requirement for a new system at all). This is a complex and skilled process, neglect of which frequently causes projects to fail.

Guides to buying systems advise listing out systems that would fill, or partially fill, the requirements identified. This is difficult because the choices, at this stage of the project, are wide. Vendor selection consultants offer services to narrow down a system search – but beware the method, once widely used, that lists products purportedly covered by each vendor, across a matrix. Under this system, the vendor that seems to have the widest product coverage, is automatically awarded the contract.

The difficulty is to determine whether a product is really 'covered' by a system. One firm we supervise used a consultant to select a 'simple' derivatives system. But no derivatives really are simple. It takes a lot of work, for example, to decide whether simple cap and

floor functionality is sufficient to merit 'coverage'. Does the system cater for trading both one-month and three-month Libor caps? Do all risk management reports work on these products? The matrix is actually three dimensional: for each vendor you need to align the product with the different kinds of function that should apply to it: eg risk reports, trading grids and blotters, stress testing. There are very few products on which you can run all the available functions of a system. Therefore, the firm, which had a large UK mortgage book, needing to hedge against one-month Libor risk, bought a system that only properly managed three-month Libor risk, resulting in expensive manual workarounds. In another case, a firm bought a system because it had value-at-risk functionality, and also traded derivatives. But, unfortunately, the system could not run value-at-risk on derivatives!

**SOFTWARE DEMONSTRATION.** The purpose of software demonstration is to show the system can meet the needs of the buyer. Since most systems are genuinely difficult to use without the proper training, this usually requires the services of an experienced demonstrator, employed by the vendor. Demonstrators are trained to show software in a certain light, so you need to challenge carefully what you are shown. But be fair and be patient. You really do want to see the software in a good light. Do not let a weak front end blind you to a good service, good data model or strong underlying architecture.

Do not worry too much about graphics or reports, which are the easiest part of software to design. Focus on whether the underlying system has the data for the report. Try not to worry either about how the system presents reports, so long as it can communicate with other systems. Information presented in graphical form, or in nicely formatted reports, is generally unintelligible to other systems. Consequently, we see risk managers or product controllers writing software to parse elegant-looking, but unusable reports.

It is essential that the system has an interface (for example, flat files, application programming interface, spreadsheets and replication) that allows other systems to talk with it. Your IT staff will be able to advise on this. Even if the reports are inelegant, a suitable interface may allow you to pick up data and put it into a spreadsheet, or report writer and make it look clean and clear.

## KEY ELEMENTS

Although this article focuses on derivatives trading systems, lessons can be learned for any IT implementation:

### Demonstrators

- Challenge what you are shown, but be patient and fair
- Focus on whether the system has the data for a report, rather than worry about graphics or presentation
- Make sure the 'nuts-and-bolts' users see and test it – don't just leave it to the senior people

### Evaluation

- Consider a temporary licence
- Test as much functionality as possible to allow users to build up expertise and confidence
- Double check for 'vapourware', that is, functionality which is claimed but which does not exist
- Don't be afraid to be demanding
- Evaluation must be by users

By contrast, do worry about interactive functionality. Reports are not interactive, and are easy to design. A good interface, by contrast, can be much more difficult. One firm bought a system that required seven separate tickets to book an FX forward. This can easily be teased out at the demonstration. Front-office users can ask how to book their trades. Middle-office users should verify the process for building and managing curves. Back-office users should see resets performed for all trade types. Risk managers will normally rely on reports, but be certain that configuring the risk management parameters (which is always complex) is relatively straightforward.

Groups that attend the demonstration should be expert in the function they will use it for. In one extreme case, the selection team consisted entirely of senior individuals who were unaware of the nuts-and-bolts implementation issues, which later caused much effort and delay. They were too impressed by a flashy front-end and were unable to look behind the smart graphics. The implementation eventually succeeded, but came in £7m over budget, and resulted in six of the eight no longer working for the firm. (The seventh is in a different post and the eighth says he always opposed it.)

Remember, the purpose of demonstration is to rule out no-hopers. Be very careful of selecting any large software package on the basis of a demonstration alone. Which brings us to 'evaluation'.

**SOFTWARE EVALUATION.** Surprisingly, a significant number of users are unaware that a temporary license for a system can be purchased – usually for six months, sometimes longer, allowing the purchaser to evaluate the system thoroughly. Failure to do this contributed in some instances to a failure of implementation.

Thorough evaluation is the only secure solution to choosing software. Better lose a small amount evaluating a system that then proves unsuitable, than suffer the full costs of fully installing and relying on something unworkable. Vendors prefer thorough evaluation too – they can be as frustrated as anyone at having to 'sell' their system on features that are entirely unconnected with what they know to be its strengths.

A strong alternative, however, is a well-managed selection process with a series of specific hands-on workshops targeting all of the pertinent issues, and involving all user groups. This process can take many months but is preferable to committing to a system too early.

## 'THE SELECTION AND EVALUATION PROCESS IS FUNDAMENTAL TO ITS SUCCESS. IT IS THE PART OF SYSTEM IMPLEMENTATION THAT DEPENDS MORE THAN ANY OTHER ON COMMITMENT BY THE BUSINESS'

Guidelines are available on how to conduct a useful and efficient evaluation. Consultants or professional project teams can be helpful (but, sadly, not cheap). The essential thing is to test as much of the functionality as possible, and to allow users to build up expertise and confidence with the system.

One firm relied just on two three-day workshops to review the last two systems on its shortlist. This was really an extended demonstration rather than an evaluation. At the end, a questionnaire was circulated to heads of businesses, to ask if the system met their requirements. They said "yes", naturally. The system was later scrapped at a cost of about £12m.

It is essential to tease out the problem of 'vapourware' – claiming functionality that does not exist. Few vendors are consciously dishonest, but most believe passionately in their product and may be confident that the system can easily be made to perform to specification. The vendor probably believes the system can price callable range notes, except it probably cannot. In the case above, the system was strong on derivatives functionality, but it was very poor at booking simple non-derivative transactions. No one checked this, and the purchaser was assured that it could do it. It was a disaster. In all cases where disaster was extreme, this could have been prevented by thorough understanding of what the system really did and did not do.

It must also be remembered that the relationship with the vendor is a partnership. Even in the current economic environment, vendor companies face intense competition for trained personnel, which they inevitably divert to their most favoured, or strategic, clients. Are you one of those clients? How do you know? Many vendors, particularly in the US, expect their clients to be demanding about service. When they do not find this, they assume all is well. Quite recently, we saw a large project fail when the firm, a Far Eastern bank, did not consider it polite to be so demanding.

Finally, it is essential that evaluation is carried out by users. Most IT directors cite lack of user input as the main reason for a project going wrong. It is an inevitable paradox that the best people to advise on project requirements are those who are too busy to spend time on them. The best implementations I have seen were those that put all users in a room from time to time to put the system through its paces. It involved a little bullying, but worked every time.

In summary, the selection and evaluation process, though just one part of implementing a system, is fundamental to its success. It is the part of system implementation that depends more than any other on commitment by the business. We have seen very few disasters in firms which thought carefully about this process, realised its importance and understood how easy it can actually be, but sadly, we have seen many disasters in firms that did not.

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