infoKit

JISC infoNet

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System Selection

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INFOKIT

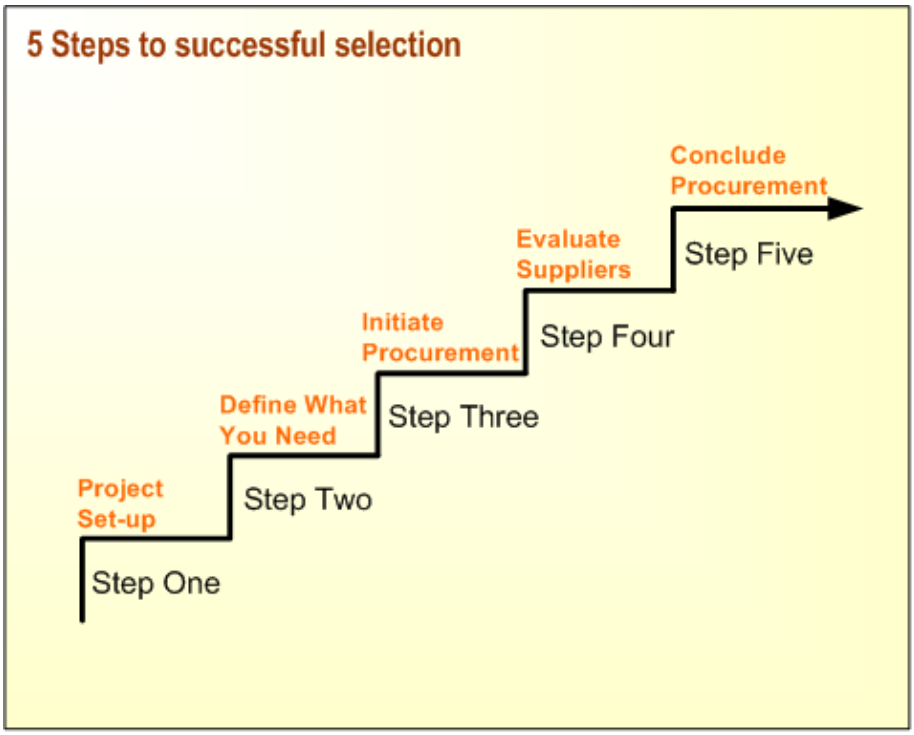
System Selection

Introduction

A brief scan of any of the special interest group mailing lists reveals that at any one time a sizeable percentage of the UK's colleges and universities are somewhere in the process of selecting a new system for one or more of their core processes, whether this is to support business, learning, teaching or research functions. Analysis of the market also shows that there is a considerable range of software and software bundles in use.

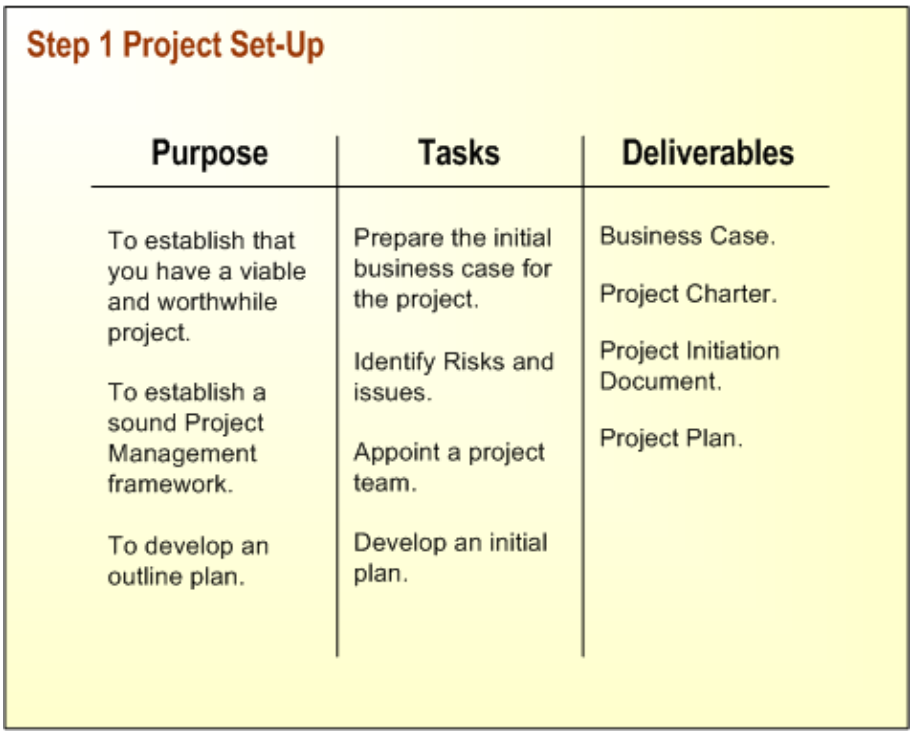
System change is often prompted by seemingly insoluble problems with existing hardware and software and is often unwelcome both to those who have to cope with it and those who have to fund it. One of the themes running through many of the JISC infoNet infoKits is the opportunity afforded by system change to add value to the business of teaching, learning and research. This depends, of course, on selecting the right system in the first place.

This infoKit offers a model approach to choosing a new software system. The model is a generic one applicable to any type of application and any scale of implementation. We identify components which are key to the approach and others which are optional and generally suitable only in very large scale or costly projects. The model was adapted by JISC infoNet from commercial selection models and has been used successfully by a number of institutions.



As with most of the JISC infoNet components, this infoKit assumes that system selection is being approached as a project and that some form of formal project management framework is in place. We have a full infoKit available on Project Management.

Project Set−Up



Step 1 Project Set-Up

Purpose	Tasks	Deliverables
To establish that you have a viable and worthwhile project. To establish a sound Project Management framework. To develop an outline plan.	Prepare the initial business case for the project. Identify Risks and issues. Appoint a project team. Develop an initial plan.	Business Case. Project Charter. Project Initiation Document. Project Plan.

Business Case

Any systems replacement project, however small, should be initiated on the basis of some form of business case for buying or replacing a system. The preparation of a business case helps ensure that the project is worth doing and that there are clear objectives. At the very least this business case should contain a brief description of the proposed development and key objectives of the project including:

- Anticipated outcomes of the Project.
- Relationship to the organisation's plan or overall strategy.
- Anticipated opportunities and benefits.
- Who will be affected by the proposed development?
- What risks are involved in implementing the proposed development − and what planning is in place to manage such risks?
- What are the investment costs − how much capital is required?
- What are the likely running costs once the development is off the ground?
- What about Payback − how long will it take for the organisation to recoup projected costs as savings or benefits?
- What are the timescales for the proposed development?

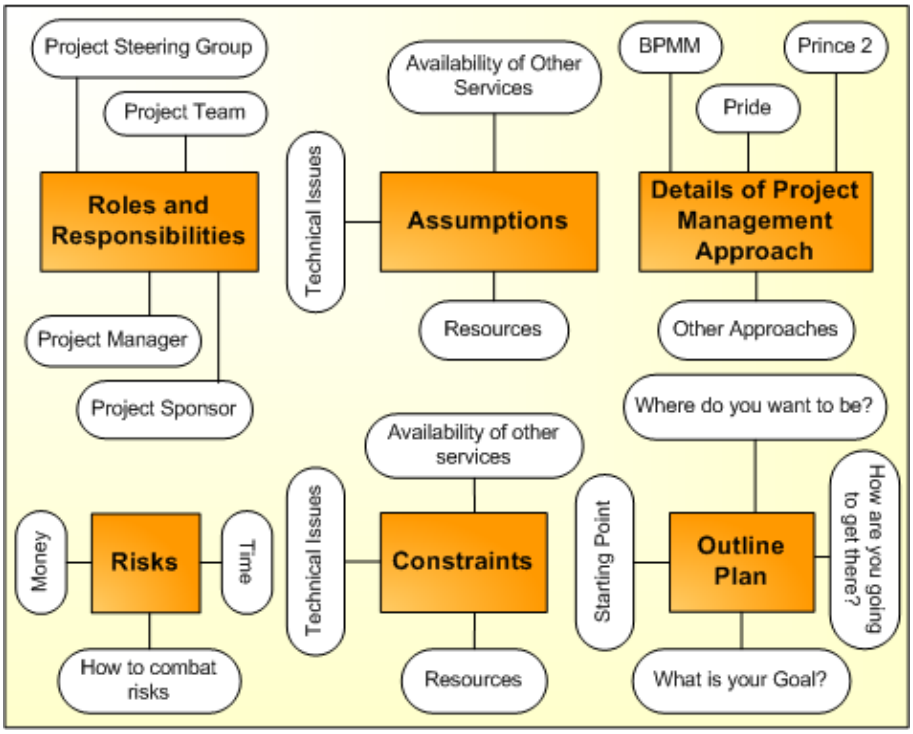
Follow the link to view the JISC infoNet Business Case Template.

It is also worth looking at some of the questions about Business Requirements raised in section, "Define What You Need". You should at least be able to answer the questions in broad terms before you start up a project.

Project Charter/Project Initiation Document

Large and complex projects will need to undertake considerably more scoping work once the initial business case receives approval. It is expected that there will be a formal statement which may be variously known as a Scoping Document, Quality Plan, Project Charter or Project Initiation Document. The MIS project at Northumbria University is a major undertaking that warranted the development of a Project Charter stating the overall strategic aims and objectives and a detailed Project Initiation Document for each phase of the project. Find out more about writing a Project Initiation Document.

Smaller scale projects may combine the two but all projects require some form of documentation clearly outlining the project management framework and methodology. As a minimum this should contain:



Scoping the Project

It is important when scoping a Project to ensure that details are clear with minimal possibility of misinterpretation or confusion on the part of stakeholders. It should be clear from the outset what is and is not included in the scope of the Project. This will help avoid potential difficulties arising from any unscoped additions on the task load, ultimately causing slippage in the progress of the Project. It will also help you manage stakeholder expectations by communicating clearly what you will and won't deliver. A project may meet all of its objectives yet still be perceived as a failure by stakeholders if they have misunderstood the scope of the project and expect to receive benefits you are unable to deliver.

An example of this could include the scoping of a timetabling system − will the system hold courses or examinations − or both? If the Project Scope includes only courses then the possibility of inclusion of examinations would be outside of the original scope.

It can often prove quite difficult to keep within scope given that additional suggestions can be closely linked to the original initiative. Changing the scope of the project frequently poses risks in terms of keeping to budget and deadlines but it is important to realise that scope change may also offer opportunities to derive previously unforeseen benefits. Conversely you may also need to

descope items from time to time in order to keep within project tolerance limits. The key to managing your project scope is to include a formal Change Control mechanism within your project methodology.

Change Control

Change Control is vital in keeping your project on track. Any change to the agreed deliverables of your project should be subject to an impact analysis. There are various means of undertaking such analyses and all recognised project methodologies have a preferred approach. Key to any approach is to consider the impact in terms of:

- Time
- Cost
- Quality

By this stage in the project you already have an agreed plan and deliverables and an agreed budget. By considering the proposed change under the above headings you should be able to establish whether the change is within acceptable tolerance limits or whether it has a significant impact on any of these areas. Generally a project manager may approve changes that are within tolerance but will refer to a higher authority such as a Project Steering Board where the proposal amount to a significant scope change. In these instances the Board should be presented with some form of Business Case if it is being asked to approve a change.

To continue with the system selection example given earlier − let's assume we had chosen to purchase a course timetabling system but excluded examination timetabling. Ideally we should have consulted all relevant stakeholders about the project scope before getting the project underway but let's assume the Registrar suddenly thinks it would be a good idea to include exam timetabling. If we make this change it will set our deadlines back because we will need to define our requirements in this area and it is likely to result in additional cost. We must make a business case for why the change (in this case presumably an improvement in quality) is worth doing.

System selection poses additional issues in relation to change control given that formal tendering is involved. You must have a watertight scope before starting the procurement process other wise you may have to start again and re−advertise. Changing the goalposts after you have gone out to tender not only reduces your chances of attracting the right suppliers it may also leave you open to legal action by suppliers.

Stakeholders

A major issue for an organisation of our type is who to involve in any project. This may be glossed over in many commercial approaches on the assumption that it is generally obvious who should be allocated a particular job. Things aren't quite the same in the education world which is why we focus here on involvement rather than simply setting up a team.

Most project methodologies will take you through identifying your key stakeholders, assessing their likely attitudes to the project and designing strategies to keep them on board. In education you ignore this at your peril. There are various approaches to involving stakeholders and you must think carefully about the best approach for your particular circumstances in order to get input from the right people at the right time.

Stakeholder Analysis

It is worth drawing up a list of stakeholders and their possible impact on and attitudes to the project.

To view the JISC infoNet template for Stakeholder Analysis use the following link, Stakeholder analysis template.

It is important that the analysis is shared with colleagues and preferably "signed off" at project sponsor level to ensure that you do not get a "rabbit−out−of−the−hat" stakeholder emerging unexpectedly in the middle of your project. This can de−rail a project.

In drawing up this sort of schedule it sometimes helps to assess the "Potential impact on the Project" heading if you consider the type of involvement various stakeholders have on complex projects. If the project has been set in a strategic context it will follow that most members of the organisation will be seen to some extent as stakeholders exercising some sort of influence or control as follows:

- ***Strategic*** − Determining the strategy which this system underpins − may sponsor the project
- ***Managerial*** − Executes managerial control over elements of the system being implemented
- ***Operational*** − Is involved in operating the system or parts of it
- ***Direct Influence*** − Is directly affected by outputs of the system but is not engaged in inputting to it.
- ***Indirect Influence*** − Is only indirectly affected by the system if at all.

This is not an exhaustive list and you can create your own types to help you analyse your own organisation. However it is particularly important for you not to ignore the last two types of stakeholder. Although it could be argued that the last type is not a stakeholder at all, it is a particular characteristic of education organisations that particular interest groups have disproportionate negative power. You need to acknowledge this and devise a management strategy for it. Typically, this often involves large−scale communication exercises just to ensure that people remain "onside". This is another reason why systems implementation in an educational environment is often so complex.

This covers organisational stakeholder analysis but you might ask "What do I do about directly involving people?" There are two basic approaches to this which can be summed up as Representation v Delegation. Both have advantages and drawbacks.

Approach	Advantages	Disadvantages
Representation Attempts to take in the full range of views, interest groups and organisational units as part of the full decision making process. Characterised by democratic, committee−type decision−making.	• Covers full range of views • An obvious route to gain widespread acceptance of decisions (?)	• Involves people who may have limited knowledge of the subject area • Slows decision making • Can result in compromises which don't really represent 'best fit' in any particular area
Delegation Delegates responsibility to those identified as being best suited to the job	• Work carried out by those with appropriate skills and knowledge permits project to move	• Acceptance relies on trust in those delegated − may be an alien approach in

	forward more rapidly	the education culture Needs care to ensure that all relevant issues are properly understood and covered

As time is particularly constraining in the education world, with processes and policy moving on rapidly, the JISC infoNet suggested model is to follow a delegation route with a small team of committed subject experts empowered to undertake work on behalf of the wider community. The empowerment aspect is crucial, as is (under either approach) a robust communication strategy, devised in accordance with your stakeholder analysis as outlined above.

A similar selection methodology has been used by the University of Sunderland a key difference being that it adopted a more representational approach to the evaluation team. View the Sunderland Case Study Material.

Whichever approach is most suitable to your organisation, the following key pointers apply:

- To ensure a consistent approach, make sure the same people evaluate all of the systems under consideration.
- Don't assume that the ability to critically evaluate a system can be taken for granted. The assessors may require some formal training. At the very least they should attend a briefing session where they have the opportunity to ask questions and resolve any differences of perception/approach.
- When planning the work allow time for training/briefing and thorough debriefing. Ensure your assessors are aware of the total time commitment required.
- If the project is particularly large or complex, it pays to think of your assessors as a project team. There is a vast body of literature on the development of teams. The phases of team development are commonly referred to as Forming, Storming, Norming and Performing (The Tuckman Model). If you need to bring together people from different backgrounds and experience in order to take major important decisions for the organisation, you need to allow some time for them to develop as a group. In small projects, very basic training or a detailed briefing as described above may be all that is required. In more major undertakings, time invested in developing your team will help ensure you make the right decisions.
- Ideally the people involved in product assessment will be the same people who are responsible for defining the requirements in the first place. Where the constituencies are different there is again a need for briefing/explanation.

Project Plan

At this point in the project you should have at least an outline project plan. Even in a project where your organisation may be relaxed about the overall deadline, there are a number of factors to be considered. Your scoping exercise should allow you to answer the following questions:

- Will you need to go through an EU procurement exercise and if so which route will you take as this affects the time required?
- Have you detailed all of the tasks that need to be carried out in order to define your requirements?
- Do you have sufficient experience to give realistic estimates of effort for these tasks?
- Who will be involved and what are the constraints on their availability?
- What resources do you need to carry out the supplier evaluations (e.g. rooms etc) and what are the constraints on their availability?

We consider project planning in more detail in the project management infoKit. At this point it is important that you have basic outline which is understood by all those involved. Without this simple tool a project can very easily fail to make progress.

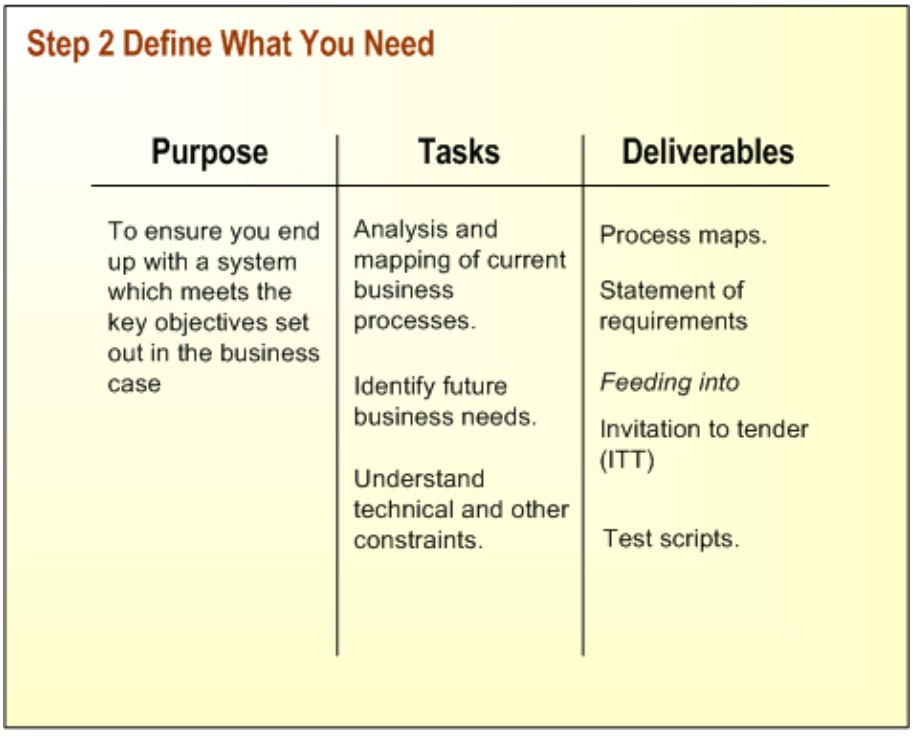
Project Stages

It is also a principle of sound project management/project planning that the project is broken into stages at which the business case is reviewed to ensure it is still valid. This may sound logical in theory but once a project is under way and gaining momentum, it is often difficult to stand back and look objectively at the business case.

To take the example of system selection, you should be aware at the outset that a possible outcome of the project is that you can't find anything that meets your requirements. This scenario may be unlikely and perhaps indicative of a flawed requirements specification but it could occur. Perhaps more likely is that none of the solutions is quite ideal and you need to choose between best fit for different purposes, consider increasing your budget or look at changing your business processes. It may be unpalatable to a team charged with selecting a new system to realise that the system will be far more costly than envisaged and cannot be justified in cost benefit terms but the project will have been a success in institutional terms if it reaches the right conclusion.

We will return to the subject of stage boundaries or key decision points as we progress through the model.

Define what you need



Defining what it is you are actually setting out to buy is one of the most difficult stages of system selection. At the two extremes you run the risk of:

1. Describing exactly what you do at the moment and missing out on opportunities for change and development or

2. Constructing a wish list of objectives that no system can match

However, the creation of a Statement of Requirements is crucial. A carefully considered and well−constructed list will be invaluable throughout subsequent stages of selection and implementation. As well as formally stating requirements arising from your process review, the Statement of Requirements can be used as the basis for constructing the formal tender and hence provides a benchmark for initial shortlisting of products. It can also be used as the framework on which to base detailed evaluation scripts for selection events, insertion into a negotiated contract as a formal document of customer requirements, and can be used further in the implementation stage as the basis for user acceptance testing.

In preparing your initiation or scoping document you should have identified in broad terms what it is you are trying to achieve and what, if any constraints are imposed upon you. Where the nature of the project is essentially reactive e.g. the existing system is failing, the supplier is withdrawing support, the hardware requires replacement etc you may have constraints such as a fixed timescale or budget imposed. Where the aim is to improve upon an existing system, there may be greater scope to explore a range of possible solutions.

In the education environment, most procurement is subject to a formal tendering process and many business system replacement projects will be of sufficient scale to be subject to EU procurement legislation. Later sections of this infoKit deal with the process of preparing a tender document and with EU legislation; this section is concerned with starting to define the requirements internally. For smaller projects, the process of getting the requirements clear by means of a small team or focus group may give you all you need to move into the procurement stage. For larger projects this will be a first step in preparing a formal tender.

Your requirements will generally fall under three headings − general, technical and functional. The emphasis of the JISC infonet approach is on finding the best business solutions and to this end the model concentrates on functionality. We will however begin with the other areas as they may impose constraints on the rest of the project.

General Requirements

The first thing to consider is are there any general requirements which are a prerequisite for your decision? Examples of this may include requirements about the sort of company with whom you would consider doing business.

Are you prepared to contract with a small company that offers good product functionality or do you feel there is greater security in dealing with a larger organisation? It is advisable to involve your Finance or Treasurer's Department in decisions of this nature. They will normally be able to carry out an initial check on a company's status at an early stage in the evaluation. Credit Reporting can prove to be an invaluable tool at this stage.

Are you in the market for a specialist product which may have a limited user base or do you ideally want to identify a market leading product even if this means compromising in some areas of functionality?

Are you prepared to sign up to the company's standard licensing terms, do you wish to impose your standard contract on them or do you want to negotiate a contract? The answer to this question may depend on the size of the project and the extent to which you are undertaking any bespoke or developmental work. This does however have an impact on your procurement route especially where procurement is subject to EU regulations. Find out more about Procurement. You are advised to involve your Procurement Officer and Legal Adviser at an early stage.

Technical Requirements

Does your organisation have a defined IT Architecture Strategy and, if so, does this impose any constraints on your project? For example you may be committed to a single hardware or database platform which means you need to identify software which can run on that platform.

It is advisable to involve those responsible for your IT infrastructure at an early stage. Even where there are no formal constraints on the technology, you need sound advice on whether the technology you are evaluating is sufficiently robust and scaleable for your purpose and whether you have the in−house skills to maintain and support the product or would need to buy−in skills.

For a system that is intended to be used by *both* students or staff remotely (such as a VLE), it is important to consider browser and remote access requirements. For example, will your institution's firewall allow off−site access? In some VLE implementations this has been overlooked causing an embarrassing issue after organisation−wide roll out of the software. Archiving capability may also be required to meet legal and organisation requirements. For example, a student may need to have access to all their learning material stored within a VLE whilst they are enrolled on a programme of study. This can drastically increase the storage requirements.

Functional Requirements

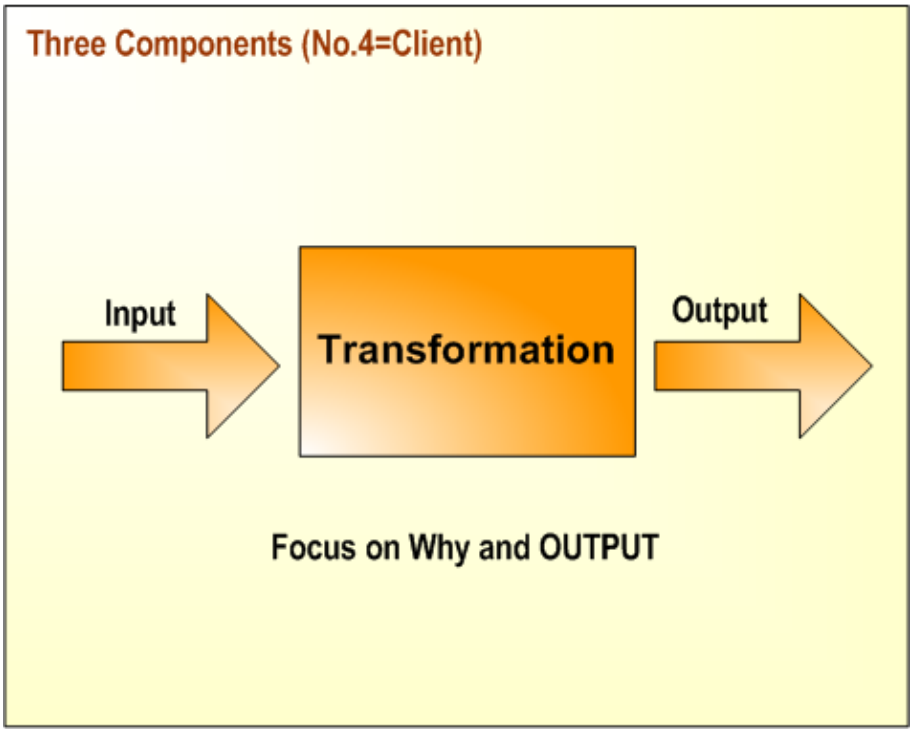
Describing your functional requirements can be a very tricky issue. As outlined above you need to strike the right balance between just describing what you do at the moment and coming up with "blue sky" ideas that aren't achievable.

It is tempting to get straight into the detail of what you think the ideal system should do but in order to get the right approach to this you really need to stop thinking about an IT system and start thinking in terms of business activities. Business activities can be viewed as a pyramid with Strategy at the top − Why you are doing something; Tactics in the middle − What you are doing and Operations at the bottom − How you are doing it.

It is always worth starting by reviewing the strategy. If you can't answer the question "Why do you want to do this?" the project is already in trouble. JISC infoNet recommends taking a customer

focused approach to answering this question. Consider "How does this help our relationship with the customer?" In most cases the customer will be the student. If you either can't identify the customer or can't see how your project fits into the customer relationship maybe you need to rethink your objectives.

Next you can turn your attention to what it is that you need to do. Again you should start by looking at this in broad and simple terms. If you find yourself already embroiled in a huge amount of detail you are pitching your thoughts at the wrong level. There are three components to any business process: Input, Transformation and Output.



Having answered the question "Why are you doing this?" you need to consider "What do you need the process to achieve?" i.e. what are the outputs? It all sounds straightforward but you may find, particularly where you are working with end users, that you ask either of these questions and the answer they give is to explain exactly what they do at the moment. They can easily confuse "what is" and "what should be". It is often useful to involve an outsider in these discussions to bring in greater objectivity.

Eventually you will get down to the detail of what data you need to collect and what kind of transformations you need to undertake to achieve the required outputs. You will probably need to undertake some form of process mapping and process analysis to aid you in setting out the requirements. We cover these topics in greater detail in the Process Review infoKit.

Having mapped your existing processes you may wish to apply some analytical tools to help you identify issues and problems that could be rectified when you implement a new system. It should be stressed that the sort of analysis we are talking about here is process analysis not IT system design but it can help you to identify the sorts of facilities you want to look for in a new system. We would advise leaving detailed process redesign until you have purchased your IT system and are working on implementation otherwise you could waste a lot of effort. Understanding the issues with your current processes however can only help you at this stage.

Creating the Statement of Requirements

To avoid the pitfalls previously outlined, we recommend that you address the following as a starting point for the Statement of Requirements:

- ***Justify each item.***
  You must be able to justify why you have included an item; otherwise why it is included in the specification? To assist in this, it is helpful to state a Purpose at the top of the requirements section. This helps to constantly focus on the Strategic (Why?) considerations that are often overlooked. It is also worth listing definitions that will help understand the detailed requirements − for example, stating what is meant by terminology such as Course and Unit with the context of an Academic Programme.
- ***Think "Out of the Box".***
  A Process Review should have already provided you with a list of requirements that encapsulate what you want to do rather than just what you do now (see our Process Review infoKit for further details). It is also worth stating any existing critical constraints alongside the Purpose and Definitions within the requirements section, again as a way of focusing on the new requirements.
- ***Decide Priorities.***
  Decide what is a must and then what (if any) requirements you could manage without for a brief period of time; which of these you may be able to produce yourself, agree with your prospective vendor or a third party for these to be written, or source a package that will interface readily with your other systems. This exercise can often help eliminate items if the justification isn't there!

As well as considering requirements in the three broad categories (General, Technical, Functional) it can be helpful to further sub−divide up the requirements into smaller chunks − for example: Data Management, Data Input, Data Output, Configuration and Usability. This helps to focus appropriate input from the relevant constituents, balancing between business specialists, technical staff and end−users. It also promotes consistency between the separate strands of requirements − for example if your Statement of Requirements includes a section for Admissions as well as Enrolment you are likely to want data output in the same formats for both.

To view a checklist aimed to assist in the compilation of a Statement of Requirements please use the following link, Statement of Requirements Checklist

Defining the requirements for a Virtual Learning Environment (VLE) is much the same as for a business information system. As with business systems, you should start with a definition of your requirements before investigating VLEs that are commercially available.

To view an example statement of requirements for a VLE in Excel format please use the following link, Statement of Requirements for a VLE.

The University of Bangor has produced a useful report at http://www.jisc.ac.uk/index.cfm?name=mle_related_vle that details the functionality that was identified for its VLE.

The EduTools project set up to support HE institutions in Canada has produced a web site that provides a useful comparison of VLE products at: http://www.edutools.info/course/compare/all.jsp.

The JISC web site also has some documents relating to VLE/MLE (Managed Learning Environment) specification checklists/selection.

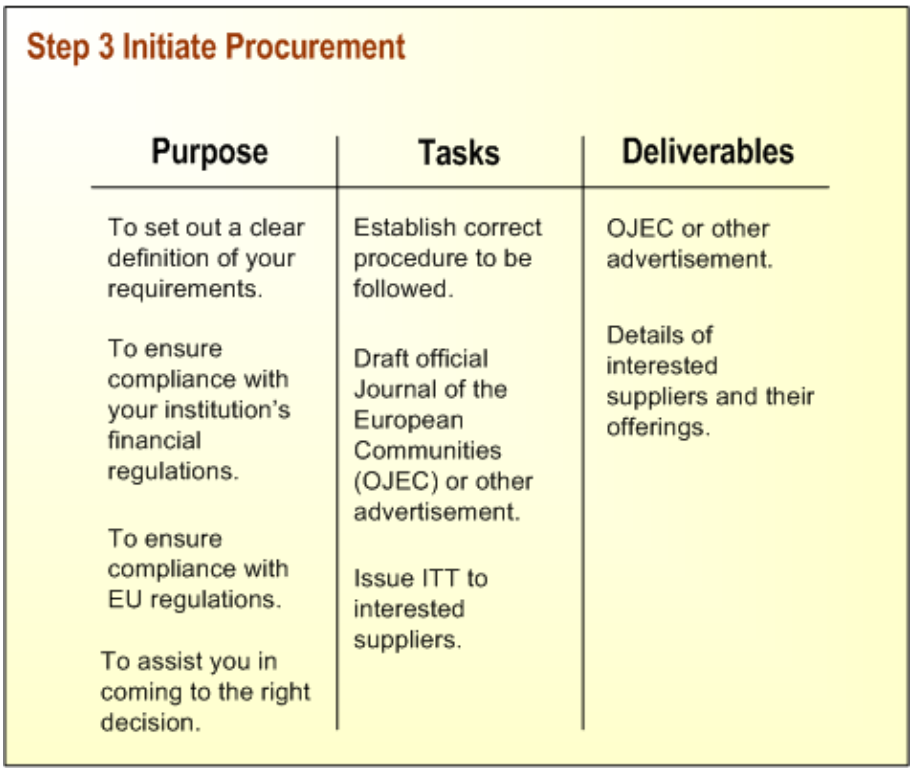
Prepare an Invitation to Tender

Finally you will set out your requirements in an Invitation to Tender (ITT). This document requires careful preparation if you are not to waste your own and suppliers' time on unsuitable tenders. It should give suppliers a reasonable amount of background information about your organisation and your project as well as setting out the detailed requirements specifically and clearly.

To see how the University of Northumbria applied these techniques to develop an ITT for a replacement student and HR system please use the following link, Example ITT.

To download a blank ITT template please use the following link, ITT template.

Initiate Procurement



Step 3 Initiate Procurement

Purpose	Tasks	Deliverables
To set out a clear definition of your requirements. To ensure compliance with your institution's financial regulations. To ensure compliance with EU regulations. To assist you in coming to the right decision.	Establish correct procedure to be followed. Draft official Journal of the European Communities (OJEC) or other advertisement. Issue ITT to interested suppliers.	OJEC or other advertisement. Details of interested suppliers and their offerings.

This section assumes that one of the outputs of your earlier work on definition of requirements was an Invitation to Tender (ITT). Refer back to "Defining What you Need" for ITT templates and examples. Within the education environment it is likely that any IT systems procurement will be subject to some form of tendering exercise. This may be required in order to comply with your own financial regulations or, in the case of major purchases, to comply with EU regulations. It is all too easy to see the tendering process as a bureaucratic nightmare when, properly used, it can be of great help in the decision making process.

You are advised to seek early assistance from your own procurement officer and/or legal advisers to ensure that you select the most appropriate procurement route. Should you be subject to the EU process there is a choice of Open, Negotiated and Restricted procedures. Correct choice of procedure is important in determining what type of evaluation process you can undertake e.g. whether you are legally able to shortlist or whether all suppliers who respond must be subject to the same evaluation. It is in your own interest to undertake some form of market analysis at an early stage of project initiation in order to have an idea how many potential suppliers may be able to meet your needs. Project deadlines may be thrown substantially out if you are obliged to evaluate far more suppliers than you had planned for.

See more on EU procurement legislation and guidelines.

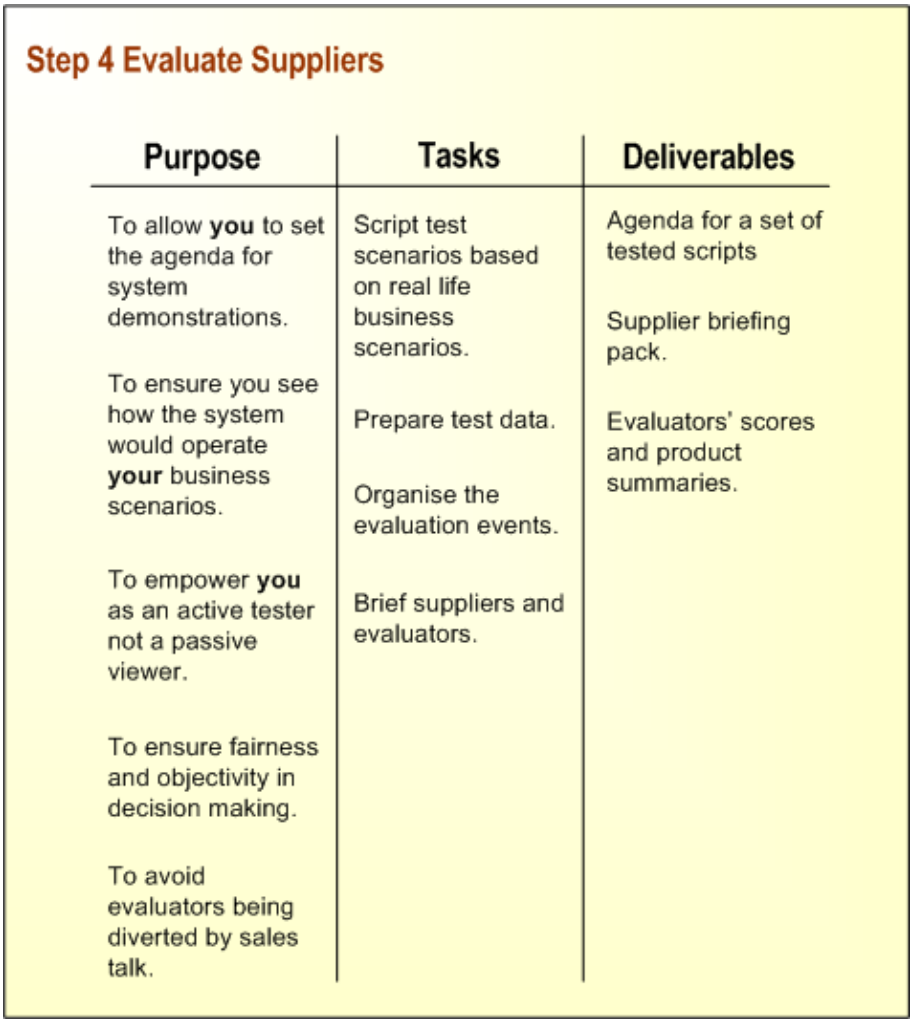
N.B. In some circumstances institutions may be able to procure IT systems via a GCat agreement. (GCat is a catalogue based procurement scheme originally designed to provide public sector organisations with a simplified means of procuring, and contracting for a wide range of IT and Telecommunications products and related services.) This may occasionally increase the speed of

the process but is subject to an administrative premium.

Whichever procurement route you use it is important to ensure you understand the technicalities of the process. Failure to observe correct procedure can result in a legal challenge from a supplier which can cause delay to your project and ultimate financial loss.

In many cases there will be a "waiting" period between placing the advert and issuing tender documentation during which suppliers will prepare their responses. Don't worry − your team will have plenty of work to do preparing for the evaluation stage of the project − read on.

Evaluate Suppliers



Shortlisting

Depending on the procurement process you have chosen you may either shortlist suppliers on the basis of their tender responses or move straight to a full evaluation of interested suppliers.

Where compilation of a shortlist is part of the process you are likely to look at:

- The company's financial standing
- The company's market position

- What proportion of your requirements is the company able to meet? This is one of the most difficult areas to evaluate from a tender response alone. Company responses are understandably positive in their approach and will tend to gloss over any shortfalls against your requirements. Don't worry − the next stage of the evaluation will help you differentiate the optimistic hopefuls from the real contenders.

You should take care that any shortlisting decisions are fully documented and can be justified against your selection criteria should the decision be challenged.

Evaluation

The supplier evaluation is one of the most critical elements of the selection process. It is based on the premise that you as the customer should be able to see hard evidence of what the system can do and, in particular, what it can do for your business. This means that, rather than simply attending a sales demonstration, you set the agenda based on your key business issues. All suppliers follow the same agenda making direct comparison far easier than would otherwise be the case.

Setting the Agenda

The agenda will depend on what type of system you are buying and what the scale of the implementation is likely to be. This model was originally developed by the University of Northumbria during selection of a new integrated student and HR system. The scale of that project meant that the evaluation of each supplier took place over three days and had up to three streams running in parallel. A simpler system will require a more straightforward evaluation event. The key thing is to ensure that your agenda covers your main business issues. You may choose to look at:

- Your most critical processes e.g. in looking for an HR/Payroll system you may decide that payroll and recruitment are critical to your organisation but training management and time and attendance are not hence you would focus the evaluation on the first two.
- Your highest volume processes e.g. in a student system this might be admissions and enrolment.
- Processes which give rise to particular problems in your organisation − this may stem from weaknesses in your current systems or the unique nature of your requirements.
- Criteria which support your strategic objectives and/or which help differentiate between suppliers. For instance if your institution wishes to offer self−service functionality to students and only one potential supplier can meet this requirement this may distinguish between otherwise similar offerings.

Preparing Test Scripts

Having decided which are your key functional areas you can then start to devise test scripts for the evaluation. The script should follow the process through from start to finish and can be constructed using your Statement of Requirements as a starting point. Again it is important to consider what you are trying to do rather than how you want to do it. It is likely that the supplier will need to do a considerable amount of preparation and set up work in advance and you need to think carefully about what information they need to have in order to do this. For example they may require detailed information about a range of course structures in order to demonstrate course set up or you may wish to provide them with some example student data in order to see how this is mapped into their system. Follow this link to see an example of the sort of information on course structures.

The following example scripts cover general issues which may be of relevance to a variety of main student administrative processes:

- Admissions (PDF version)

- Initial Enrolment (PDF version)
- Assessment and Progression (PDF version)
- Continuing Students (PDF version)
- Delivery of Teaching and Learning (PDF version)
- Postgraduate Research (PDF version)

The following example scripts cover general issues which may be of relevance to a variety of systems:

- Implementation (PDF version)
- Support (PDF version)

The following example scripts cover technical issues which may be of relevance to a variety of systems:

- Infrastructure (PDF version)
- Application (PDF version)
- Operations (PDF version)
- Client (PDF version)

Your scripts should have an allotted time. It is often difficult to gauge the time required for each area when you are dealing with unknown systems. You will be aware that some tasks are bound to take longer than others e.g. setting up a new course is likely to take longer than changing a student's address. As a general rule of thumb your script needs to allow at least a couple of minutes for straightforward tasks and should allow some time for questions.

Practicalities

Having prepared the agenda and scripts there is still a lot of work to do in actually organising the event. The scripts must be organised into a timetable. This should allow time for assessors to sum up their thoughts after each session and ideally to have a follow up session at the start or end of each day to pick up on issues from previous sessions. If you are intending to run parallel sessions, the supplier needs to know this in good time to arrange for people to cover each session. Don't underestimate how tiring the sessions will be for the assessors − the job demands a great deal of concentration and regular breaks will be required to maintain attention.

It is a good idea to have briefings with both assessors and suppliers before the event to set out the ground rules for the evaluation. Some of the points you may wish to cover include:

Supplier Briefing

You need to provide the suppliers with some form of evaluation event pack that they can consider before attending the briefing. This should contain:

- The test scripts
- Copies of any test data they need to set up
- Any relevant background information about the project

This is the last chance for the supplier to ensure they understand your requirements before they demonstrate their product to you. A good supplier will have thought about the contents of the pack and come to the briefing prepared with a list of questions. Frequently they will take the opportunity to negotiate about the timetable i.e. they want to spend more time on this and less on that. Our advice is 'stay in the driving seat' − you have already thought about what is important to you and what you want to see. You may agree that some of the changes are reasonable but take care to ensure you are being fair to all of the suppliers involved.

Timing/Facilitation

In a tightly managed evaluation timing is of critical importance and it is in everyone's interest to ensure that sessions do not overrun. You will not be in a position to make a fair comparison between two suppliers if one of them spent half an hour on a topic while the other demonstrated for two hours. You need to beware of suppliers trying to emphasise the best features of their product at length (these may not necessarily be the most important features to you) then skate over weaknesses due to "lack of time". Similarly you need to manage the input of your own evaluation team. If your scripts are well thought out and prepared (and the supplier is well prepared) the demonstration should give the team all the answers they need and there should be little need for ad hoc questioning. This isn't always the case and you need to watch out for the risk of sessions being "hijacked" by someone with a particular interest in one area.

Thorough briefing of suppliers and evaluators will help but it is worth appointing someone to facilitate each session or at the very least to keep an eye on the time and ensure you are getting through the demonstration at the expected rate. Ideally this role should be undertaken by someone who isn't scoring the session so they can give their full attention to the job. This person can also be helpful in picking up issues where suppliers do not stick rigidly to the order of the script and need to "come back to it later". The Facilitator/Timekeeper should have sufficient confidence to check with the team that a point has been adequately covered and move the supplier along or request further explanation where necessary.

Where your team has a lot of areas to evaluate you may wish to consider making a tape recording of the sessions. This can be helpful if you simply can't remember the answer to a particular question or if there are differing interpretations of what was said. It can also help to tone down some of the more exuberant and optimistic sales promises if the supplier knows you have a full record of the discussion.

Team Leader

It is worth also appointing a Team Leader who is more of a functional expert to oversee the progress of the actual evaluation. This person will need to collect score sheets at the end of each session and do a rough check that there are no missing or anomalous results. Issues to look out for are where a number of people have failed to evaluate a point due to insufficient information or where the scores of individual team members differ greatly. This can highlight areas which should be followed up in the recap/follow up sessions.

The Team Leader may also facilitate the final summing up of the team scores. There are bound to be some genuine and valid differences of opinion about the different products and rather than take a purely quantitative approach and average out scores it is worth exploring the reasons for these differences. A simple average can give a compromise solution that isn't a best fit in any area. This facilitation role may equally well be carried out by an objective outsider provided they have facilitation skills and a reasonable level of subject knowledge. In practice most projects are unable to draw on an unlimited number of people and thus find it easier to use a team member.

Scoring

You need to establish what scoring mechanism you will use for the evaluation to ensure consistency between evaluators. This may be a simple numeric score e.g. marks out of ten for each area but, as mentioned above, you need to consider the risk that a purely quantitative approach may smooth over some important issues. View an example of a qualitative scoring system. This example works on the basis that a requirement is either "Met" or "Not Met". There will however inevitably be grey areas which fall into the category "Partly Met". It may be that a supplier tells you that this functionality is being developed and will be in a future release of the product or it may be that by changing your processes the system could achieve the desired output. In any major

systems purchase there are likely to be many of these grey areas and you have to decide how important the gaps are and how you will compensate for them. It is these areas which may make or break your implementation project and you need to have a clear view of them before you can develop an effective implementation plan or set a realistic budget.

A suggested method of scoring is for each individual to complete an individual score sheet which is then input to a spreadsheet so that scores can be compared. Where all of the team members agree the score this can be taken as it stands. Where there are differences these need to be discussed and a final score agreed.

N.B. Where a large number of points are being scored it is possible to speed things up by automating the comparison process. This can be achieved in most spreadsheet packages by use of a simple macro. View an Excel template for a score sheet.

Evaluation Hints and Tips

Finally we come to the evaluation event itself. A lot of preparation work has gone into it. If you have pitched your scripts correctly and you have a good supplier demonstrating a good product things should run very smoothly. Things become more difficult where the supplier hasn't prepared well, hasn't understood your requirements or is trying to sell you something that isn't a good match to your requirements. This is when your assessment starts to move into the grey areas. There are some key signs and phrases to watch out for:

"I'll need to switch to a different version to show you that." Always ensure you know what version of the product they are demonstrating to you and what version they intend to sell you. As a cautionary tale I once saw a demonstration of a product version that existed only on the salesman's laptop. He had undertaken a number of non−supported modifications in order to show that the product could meet our requirements.

"That will be in the next version." Don't take their word for it − ask to see the evidence. If they are clear enough about the next release to be able to say definitively what is in it then they will already have detailed design documentation and confirmed release dates that they can show you. "That functionality is currently under development; we don't yet have a release date for it" means nothing − treat it as vapourware.

"You can configure it to do that." You need to be clear about what is standard end−user configuration of the system, what requires a technical specialist and what is bespoke development. Don't go in for bespoke development unless you absolutely have to. It will cost you more, it won't be part of the standard support agreement and it will cause you ongoing maintenance headaches (see below).

"It's totally upgrade proof." Be especially cautious of this one if it follows the one about configuration. As a general rule bespoke work is never upgrade proof. Be wary about changes to screens or forms. End user acceptance of screen layout and terminology is a major issue for most organisations. Many suppliers will tell you how easy it is to rename something that doesn't suit your own terminology or change the layout of a screen but you could be creating a huge maintenance overhead for yourself.

"This is an optional feature." This one should ring a big warning bell. Firstly is it part of their product at all? Many suppliers will demonstrate third party tools which bolt on to their product without making this clear to you. Third party tools mean additional licence costs, possible differences in the technology stack and possible contractual and implementation complications if the supplier doesn't want to act as a "one−stop−shop" in providing the solution to you. If the optional feature is part of their own suite make sure they are quoting you the full cost of everything they are demonstrating.

"I'll show you what X customer has done." Integration with web technology allows many of these systems to offer great benefits but it also affords quite a few opportunities to pull the wool over unwary eyes. If they show you someone else's flash website or portal be sure to establish what you are seeing of the core product and what you are seeing of another customer's development efforts.

"Yes − it does that." This warning may sound overly cynical but if the phrase isn't accompanied by a demonstration it isn't worth much.

References

You will probably include some form of contact with reference sites as part of your evaluation. This may take the form of a questionnaire, a telephone call or a site visit. The value of such references can vary greatly and there are a number of factors you need to consider.

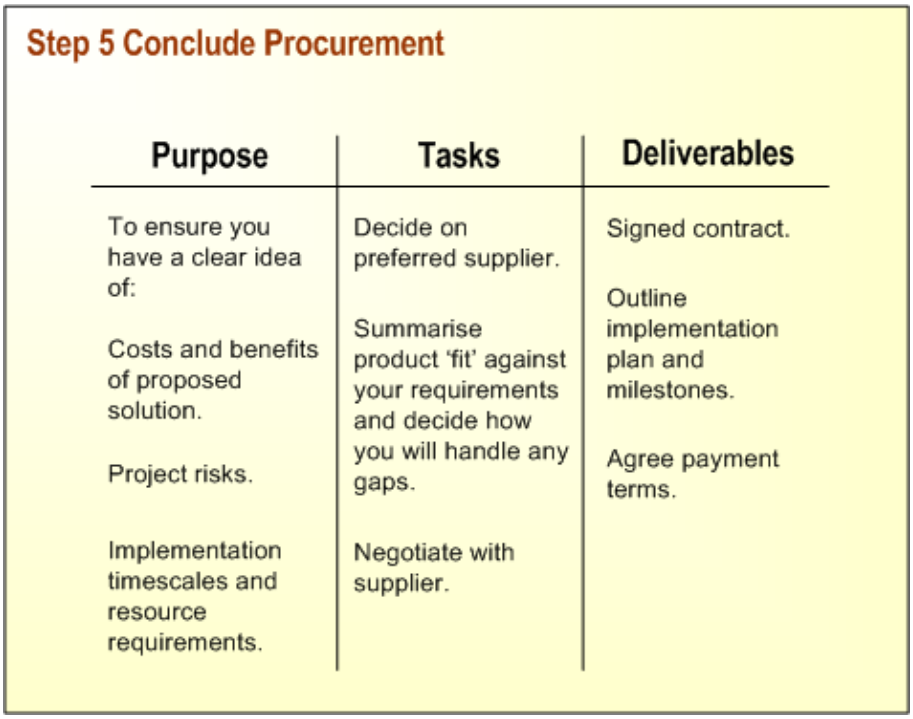
How similar are the reference site's business processes to your own? You will probably be looking for contacts within the sector (our willingness to share information is indeed one of our great strengths) but the difference between highly centralised and very devolved processing can be considerable.

What parts of the system is the reference site using? It is worth checking this out with the reference site beforehand. I have been sent by a supplier to see a "flagship implementation" of their new functionality only to find out the user had given up on the supplier's product and was using an in−house development.

What did the reference site use beforehand? There can be great differences in user expectations and satisfaction between sites that replace very old or non−automated systems and sites that try to keep at the leading edge of technological developments.

It is also important that you make the right contacts within the reference organisation. You won't get an end−user perspective on admissions processing from a Chief Executive nor will you get a view on the company as a business partner from an admissions administrator. Make sure your questions are specific and targeted.

Conclude Procurement



Decide on Preferred Supplier

As a result of your evaluation exercise you may have a clear winner or you may have to come to a difficult decision between two or more products that match your requirements in different ways. If you have followed this methodology through you should be clear about your requirements and their relative priorities but it can still be a complex matter to weigh up the potential costs and benefits of different systems.

Gap Analysis

In the complex area of student administration it is often the case that no system will meet your needs fully and you must adopt a "Best Fit" approach. In this situation you should undertake a comprehensive analysis of the "Gaps" in the product and decide how you intend to fill them. This is essential:

1. If you are to meet your user requirements
2. If you are to produce an accurate costing for delivering your project
3. If you are to produce realistic project timescales

Potential solution to Gap	Key Issues
Product Customisation	This should be avoided if at all possible. If you decide to undertake bespoke work make sure you are aware of the implications for design and development costs, support, maintenance and future product upgrades.
Process Modification	It may be that you can change your business processes to work in the same way as the system. If your project includes process change remember to allow additional resources for analysis, testing, communication, training and support.
Interfacing	You may decide to interface to a different system to carry out some functions. As systems become increasingly open integration becomes less of a technical issue and more about how you manage the information. Technical considerations include the cost of writing, testing, maintaining and supporting interfaces. Business considerations include how you structure data within the different systems so that it can be integrated where necessary e.g. for reporting purposes

and the additional user training required to operate a range of different systems.

Negotiate with Supplier

Having established which product best fits your needs you are in a position to negotiate with your preferred supplier. The extent to which you are free to negotiate on terms and conditions is determined to some extent by the procurement route you choose and what you specified in your Invitation to Tender. One of the aims of this methodology is to put you in a good bargaining position at the end of the evaluation so you are advised to choose a route that allows you to negotiate after you have gained a thorough understanding of the product.

Contract negotiation is a minefield and your project plan should allow plenty of time for to−ing and fro−ing between your lawyers and the supplier's. JISC infoNet offers a separate infoKit on Contract Negotiation which covers most of the common issues but you are advised to seek legal advice at an early stage.

One point to bear in mind is that all of the large software companies will tell you that their standard contract terms are non−negotiable. The multi−nationals will say this very convincingly but all of them are able to exercise a greater or lesser degree of flexibility when it comes to winning your business in the end. Should you procure via GCAT you will sign a GCAT contract but this too is likely to be amended to reflect the particular circumstances of your project.

Two ways in which you can get a head start in preparing for this stage are to:

1. Include a sample set of your terms and condition with your Invitation to Tender or
2. Include a session on contract terms as part of your evaluation event − this will allow you to sum up the supplier's different approaches to contracts as a factor in your final decision.

It is tempting after a possibly lengthy and wearing selection process to want to get this stage out of the way as quickly as possible and get on with implementation. Everyone believes at this point that things will go well and the signed contract will go into a drawer never to be looked at again. In the real world this is all too often not the case. Cutting corners at this stage could be your biggest mistake. A well−drawn up contract should protect you (and the supplier) against unforeseen circumstances that throw your project off−track. View the Contract Negotiation infoKit.

Sign the Contract

It is assumed here that you are contracting with a single supplier for the purchase and implementation of your system. Our infoKit on Contract Negotiation covers the additional complexities of third party involvement. We recommend that the contract should include the following schedules:

- A list of the customer requirements that the supplier is undertaking to meet. This may be taken from your ITT but it is likely to require some amendment if there are areas where the supplier is unable to meet the requirements as originally stated. It is particularly important to include the specific agreements about areas where the supplier has promised to meet a requirement with a future release of the product.
- An outline plan that highlights the key implementation milestones. The plan is bound to be subject to change but you should start with an agreed baseline and adopt formal change control procedures to handle deviation from the plan.
- A payment schedule that references the milestones. A piece of software is of no use to you unless it can be delivered as a working solution in your environment. Where you are partnering with a supplier on implementation, it is reasonable to pay against delivery of agreed objectives rather than simply pay up front. This is particularly important in relation to implementation consultancy which can eat up a large proportion of any implementation budget. Staged payments give you some leverage in the event that the consultancy does

not deliver the expected results or overruns the agreed budget. Read our article on managing consultancy input to projects.

Start your Implementation Project

At last you are ready to begin implementing your new system. Now the work really starts! We can guide you through various aspects of the implementation in other infoKits from the series. To get you started here is a template for a Project Initiation Document. You should have discussed the key headings in this document with your supplier prior to signing the contract and may even reference version 1 of the document in your contract.

Good Luck!