PURCHASING A LIMS

FACTORS TO CONSIDER

ETHOSOFT

Introduction

Selection of a new Laboratory Information Management System (LIMS) can be an overwhelming task. This is true whether the laboratory is intending to purchase their first LIMS or replacing a legacy LIMS system. Not only do evaluators have to consider their current requirements, but also anticipate what the laboratory may require in the next five to ten years. The key to selecting the right LIMS for your laboratory can be broken down into several factors that need careful evaluation.

In order to help you better organize your search, Ethosoft has outlined the following items to consider to help a buyer make an informed selection. Items such as system functionality, usability, technology, implementation approach, support policies, reporting, pricing, and vendor choice can all make a difference in the success or failure of a new LIMS system.

System Functionality

A primary concern for any laboratory is to examine the features and functionality offered by the LIMS they are considering. A thorough understanding of your laboratory processes (e.g. workflows, login groups, analytical and preparation batches, tests, reports required) will help determine the features that are most important to your lab. Identify areas where your current processes excel as well as those that need improvement. The LIMS that provides the best fit for your laboratory should be one that is flexible enough to adapt to your process; however, by keeping an open mind you may discover more efficient ways to handle tasks.

Ethosoft recommends that you request the vendor provide a demonstration of the product, utilizing processes similar to your lab. Buyers should request that the vendor demonstrate specific daily tasks in order to see how efficiently the system executes them. Providing the vendor with a script or detailed questions beforehand will ensure that you get the most from your demo.

If the functionality you are seeking is not in the product, ask if the functionality can be added. Could the functionality be obtained by configuration (changing set up data)? Or would it need to be customized, that is, requiring changes to be made to the software code? It is generally advisable to avoid customizations where possible because changes to a system's code are often expensive. Also, if a customization is required, then it is essential to determine whether or not these customizations will affect the upgrade path for the system. Be aware that unfortunately for some systems, customizations could make the product unable to be upgraded in the future. By discussing this possibility with vendors, your laboratory can avoid limiting your access to new features and/or versions of the system as they become available.

Usability

It is important that the software is user friendly. Again, asking for a demonstration is key in allowing laboratory personnel to understand how efficient the system is in terms of usability. End users should take particular notice of a few things with regard to usability:

+ The number of mouse clicks or keyboard commands it takes in order to accomplish their daily tasks
+ The ease of navigation through system screens
+ How easily a user can enter data into the system?
+ What shortcuts exist to ease data entry tasks?

Remember that a system's usability will dictate how long a user will take to accomplish tasks, ultimately taking time away from other responsibilities.

Technology

Considering the technical architecture of the LIMS you are evaluating is important as systems can have different technological approaches that may affect long-terms costs. Currently, the two main LIMS architecture models a laboratory may encounter are [1] client-server or [2] web-browser based systems. With client-server based LIMS, the software is installed on each user's computer workstation, known as the client. Only those workstations with the software installed will have access to the LIMS. In the client server model, software upgrades and patches will be have to be installed on every single workstation separately. Additionally, there is a server component that will likely need to be updated in the process.

Alternatively, with the browser-based architectural model, the LIMS is installed on a central server, not on individual workstations. Any workstation that has access to the network server will then be able to access the LIMS, even if it is from a remote location. In the case of software upgrades or patches, only the server needs to be updated, not the individual workstations.

LIMS architecture also affects how much technical support a laboratory will need from their in-house IT team. It is important to note IT support and LIMS support are different functions and should not be confused.

Implementation Approach

A vendor's implementation approach is one of the most important factors for laboratories to review before making a selection. The implementation approach should be fully understood before purchasing the LIMS. In the initial phase of the project, the following should be addressed:

+ Roles and responsibilities for the vendor as well as laboratory personnel should be established
+ Clear rules to determine who will configure the system to your laboratory's workflow processes and reports
+ What data formats are expected by the vendor and the laboratory?
+ Is the laboratory able to review the configurations made to the system prior to implementation?
+ Who will install the system?
+ What approach will be used to train your staff?
+ Who will test the system to ensure success?

It is essential to fully understand the vendor's implementation approach as assumptions may lead to major misunderstandings. It is not uncommon that a vendor's responsibility may be limited to the installation of the software and training of end-users. In such a case, be aware that your laboratory personnel will need to spend the time and effort to configure the LIMS. In most cases, time allocated to the configuration can be taken up by daily operations, especially during busy periods for the laboratory. This could lead to significant delays in implementation and going live. To avoid this, the implementation project should be discussed in detail with potential vendors prior to selecting a LIMS.

Support and Maintenance

After the system goes live, most LIMS systems have an on-going support and maintenance agreement that is made with the customer. There are several key questions a laboratory should ask a prospective vendor pertaining to support and maintenance:

+ Is the software covered under the support and maintenance contract?
+ What are the terms of the contract?
+ Will support be offered during the laboratory's business hours?
+ How are different levels of technical issues handled by the vendor?
+ What is the production down support policy?
+ Is there a separate fee to purchase a new release or is it covered under the contract?
+ Are there separate fees for patches, fixes, and/or service packs or are these covered?

Having answers to these questions prior to purchasing a LIMS will provide a laboratory with realistic expectations of what the vendors will or will not do and may help negotiate a better support contract.

Reports

The generation of reports is a significant part of any laboratory's operations. Modern LIMS should be able to provide regulatory and management reports, but also any Ad Hoc reports as requested by the user. It is necessary to discuss the types of reports that can be generated by the LIMS out of the box and which reports the vendor must tailor to your specifications. In addition to reports, it is important to know what other electronic data exports the LIMS has the ability to generate.

Pricing

The cost of any LIMS is an important factor that is considered by all laboratories when purchasing a system. Traditionally, LIMS vendors offer system pricing in one of two ways of purchasing: [1] a modular approach, where the laboratory will pay per functional module required (e.g. a QA/QC module) or [2] all-inclusive pricing for all the functionality provided by the LIMS. Beyond this initial consideration, most vendors will license the software in terms of the number of concurrent user or named user licenses.

In addition to the number of licenses, other common factors that contribute to the cost of a LIMS include legacy system data migration, the number of instruments that require interfacing with the LIMS, the number of laboratory specific reports, and vendor customizations. Any support and maintenance agreements will also add onto the total price.

LIMS Vendor

Laboratories must remember that the relationship with their LIMS vendor will not end once the system is installed. LIMS vendors will be responsible for the ongoing support and maintenance of the system as well. There will be times when your laboratory will have to rely on the vendor's assistance to offer help in troubleshooting issues. In addition to handling technical concerns, support and maintenance from the vendor will cover bug fixes, incorporate enhancements to the system, and provide new releases of the software. As vendors may provide more than one product, it is imperative to ask for references of customers that are using the exact product you are thinking of purchasing. You should make sure the vendor is not offering references for another tier of product.

Conclusion

When purchasing a LIMS, it is in your laboratory's best interest to ask as many questions as possible in order to determine which system is the right fit for your lab. Be aware that developing a rapport with the vendor prior to the sale of a system might be different than the service you receive after a system has been purchased. By taking the factors mentioned into consideration in your search for a LIMS, your laboratory can make a better-informed decision.

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