Performing a needs assessment prior to a technology purchase can save your organization headaches

It seemed like a quick way to boost efficiency when a large U.S. laboratory purchased thousands of dollars worth of label printers and bar code scanners. However, the label printers couldn't print the size labels they needed for their lab samples, making it a costly lesson.

Many other laboratories have suffered a similar fate by purchasing equipment that doesn't meet their needs or integrate with other technologies in the lab, says **Christine Paszko, MT (ASCP), PhD,** vice president of sales and marketing at Accelerated Technology Laboratories, Inc. (ATL) in West End, NC.

If you take time to conduct a technology needs assessment, you can avoid problems such as the one above and help your organization optimize purchases, Paszko says.

"I think a lot of people neglect to do assessments," she says. "They're in a hurry and they don't want to spend the time. They also view it as an additional cost."

In reality, although the assessment might slow the process down initially, it will make the purchasing process more efficient and prevent costly mistakes, Paszko says.

CII Laboratory Services in Kansas City, MO, took the time to conduct an assessment earlier this year prior to purchasing a new Laboratory Information Management System.

"We believe it was worth the time and money invested to not only provide a clearer, more detailed picture of all equipment, software, and time required on the part of the lab staff, but also to show us how the [system we looked at] would specifically meet our particular needs," says **Janice Marsh,** director of information services at CII.

The assessment process, performed by ATL, helped the organization to focus more on the:

- Percentage of time spent on various tasks
- Processes that contribute to errors
- Inefficiencies that cost the organization time and money
- Systems that worked well that the lab wanted to retain

"The needs assessment process gave all the lab staff [members] an opportunity to voice their needs and desires, both individually and in a group setting," says Marsh. "This not only makes everyone an integral part of the process, but it also gives them more of a stake in the solutions developed."

Optimizing work flow

Conducting an assessment also helps optimize systems to allow laboratories to do more with less, says Paszko.

For example, Paszko knows of many labs that added a Web portal where clients can independently look up test results. Adding this function allowed those organizations to eliminate the work of one and a half to two full-time individuals. The labs were able to devote those individuals to other areas of the lab where they were more urgently needed, she says.

Performing a thorough assessment

Keep the following tips in mind before you embark on an assessment:

1. **Set objectives.** What are you trying to learn? It is important to identify the reason the assessment is being conducted.
2. **Find sources.** Identify staff members who can provide information and data on the current state of automation in the laboratory and help create the map of where the laboratory would like to be in the future.
3. **Set sampling methods.** It's important to outline methods that will be used to get information from selected individuals.
4. **Plan to gather data.** Establish how data will be pulled together and prepared for analysis.
5. **Analyze the data.** Define how data will be analyzed and converted into usable information. Establish a realistic time frame and work plan.

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Assessment

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6. **Set the foundation for decision-making.** What will be the criteria for making decisions? How will decisions be made and shared?

When conducting an assessment, organizations can take two routes:

- Hiring someone to perform the assessment for them, as CII did
- Performing the assessment in-house

Either way, the assessment should encompass your organization's processes and procedures to determine where new technology might fit in and which brand might best suit the organization.

The Institute of Metabolic Disease (IMD), Baylor Research Institute in Dallas decided to perform the assessment in-house. The organization created an assessment team in 2000 when they were considering purchasing new technology, says **Paula Ashcraft,** laboratory supervisor at IMD.

It's important to ensure that your team includes individuals who are involved with the day-to-day operations in the lab, ideally someone from each area of operations, Ashcraft says.

"Be certain [it's headed] by someone who has worked in the lab environment and knows why things are done a certain way," says Paszko. Interview the people in the trenches who are doing the work.

It's also a good idea to observe staff members at work to create work flow diagrams and map out processes, Paszko says.

Find a sample specimen and follow it through the process, mapping out what happens from the moment the sample shows up on your doorstep to the minute the results are reported out, says Paszko.

This helps you get a good view of the process to find areas that might benefit from automation or be trimmed to increase efficiency.

Preparing for the purchase

Ultimately, this assessment process should give you a technology wish list your organization can include in a request for proposals and send out to vendors. It's a checklist your organization can use to keep the purchasing process on track and be certain that its needs are met.

Conduct a risk analysis to look for anything that might impede the ability to implement new technologies, says Paszko.

For example, this might be a lack of trained employees, funding, or limited space in the lab to add new equipment, she says. ■