LAB MANAGER GUIDE

Seven Habits of Highly Effective Lab Managers

How lab managers can keep their lab groups running smoothly

QUARTZY

Lab managers juggle many responsibilities, including maintaining equipment, managing stocks, ordering reagents, performing research, and more.

To excel in their role, lab managers must have exceptional organizational and interpersonal skills, in-depth knowledge of the lab's operations and objectives, and a holistic understanding of the organization, whether commercial, academic, non-profit, or government. While not everything is within a lab manager's control, cultivating good habits and using appropriate tools can enhance operational efficiency, translating to cost savings for the company or institution and maximizing the use of available resources.

This guide details seven essential habits for lab managers to consider.

1 Keep the Lab Space Organized

Organization is key to a functioning lab—the environment has an enormous effect on research and analytical productivity. Whether you're starting a new lab or revamping your current space, the first task to maximize productivity is organizing the lab environment to effectively realize the lab's goals. If you're starting a lab in a new space, you can weigh in on lab design from the outset; if you're revamping an existing space, you will have to work with the existing physical constraints. In whichever scenario applies to you, an effective lab manager should start with understanding the lab's workflow.

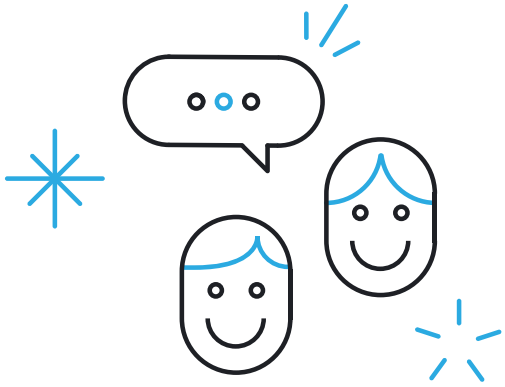
As a starting point, it can help to visualize the flow of the lab for analysis or experiments. Think of lab areas as modular "stations" for grouping things together—this can be as simple as keeping weighing scales and pH meters close to reagent stocks or keeping instrumentation such as microscopes near culture or sample prep areas to minimize distances traveled (and the chances of having workstreams and lab members clash).

It also helps to group similar items based on type and workflow. Consumables (such as buffers, growth media, acids and bases, pipette tips, sterile items) will be the most frequently ordered items. Keeping these together will make it easier to keep track of their levels and enable lab members to be additional eyes on stocks. Sensible grouping, combined with lab design based on workflow, should minimize the distances that a lab member must travel to find what they need.

If everything is close by, lab members are more likely to 1) put reagents back where they belong when they are finished, and 2) notice and report when stocks are dwindling.

> **A lab organized based on needs, processes, and goals will be more efficient, making everyone's job easier.**

2 Foster Good Relationships and Open Communication with the Team and Organization



The lab environment can be complex, with a variety of roles, education levels, and expectations among its members. Without a healthy rapport with lab members, a lab manager could be seen as a barrier rather than a collaborator—a penny pincher who fails to see the big picture. The truth is that everyone in the lab is working toward the same goals, but strained relationships, potentially stemming from poor communication or administrative barriers, could get in the way of building a cohesive team. Administrative barriers include what researchers view as unnecessary bureaucracy, such as the difficulty in establishing new vendor relationships with laborious but needed paperwork, or a clunky ordering process that may involve a web of spreadsheets, emails, or paper requisition forms.

There's a lot that lab managers can do to build healthy relationships. Fostering honest and open communication will build trust among lab members and the lab manager and minimize misconceptions and misunderstandings between people. It's important for lab managers to show caring and interest in individual lab members and genuinely listen to every voice. Too often, lab managers can focus on what's going wrong—it's important to acknowledge what's going right and offer praise openly.

Complementary to building positive relationships is removing or lessening administrative barriers with a unified communication and stock management tool like Quartzy.

> **Quartzy centralizes the inventory and ordering processes and allows for communication among lab members. When a stock is running low, you can request it, buy it, track it, and receive it—all in one place. When your item is received, the inventory is automatically updated, keeping it current.**

> "We can log into Quartzy anywhere in the world and access, change and approve any order."
>
> **Jeremy Johnston, Lab Manager, Northwest Pathology**

3 Understand How Your Lab Members Work

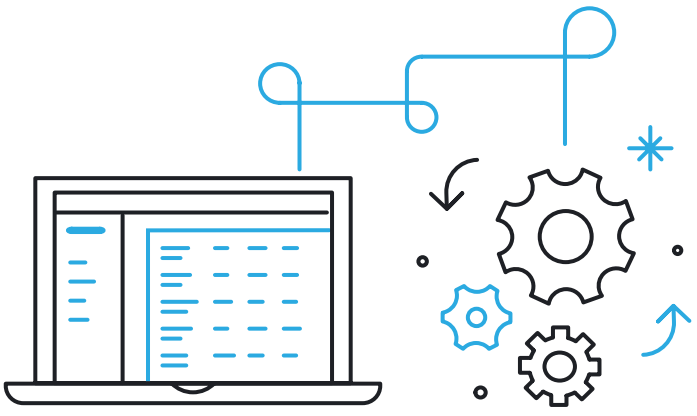
Does your lab have people who willingly share reagents, or do they prefer to keep their own stocks at their bench? How often do materials or reagents find their way around the lab and, if they do, how often do they find their way back to their original location? Are specific lab members assigned to housekeeping tasks? An effective lab manager recognizes these preferences and behaviors, using them to guide lab organization and management style.

Using shared materials and purchasing in bulk is often more cost-effective than ordering individual items. If some lab members prefer to keep their own stocks, encourage a culture of taking aliquots from a master stock. This reduces material costs, saves time spent on individual stock preparations, and minimizes the risk of contaminating the master stock. It can be challenging to dictate how things should be done, so it's important to meet with the lab and align on preferences for suppliers. Fragmented preferences can lead to redundancy and wasted funds—imagine having two or three different vendors for one reagent based on individual requests.

When selecting a vendor, it's important to consider lab preferences, experience, and reproducibility. A good way to get started is to understand what's available; the Quartzy Shop shows you multiple vendors in one view, so you can understand the purchasing landscape to help you and your lab's members align on preferences. After seeing the available options, it may be worth considering a trusted supplier or a new supplier (even if it's not the lowest priced option) if it could improve productivity and reproducibility.

To promote productivity and reproducibility, designing standard operating procedures for documentation in lab notebooks is essential. Electronic lab notebooks (ELNs) and laboratory information management systems (LIMS) have gained popularity and make it easy for researchers to document experiments and retrieve lab notes. Quartzy integrates with some popular ELN and LIMS systems, enabling seamless access to the lab inventory and ordering, straight from the lab notebook.

> **Quartzy integration with messaging platforms such as Slack and Teams sends automated updates so that you and your team members are kept in the loop on inventory and order status, no matter which communication platform your lab prefers.**



4 Understand Your Lab's Budget

As a lab manager, you may oversee one or more research or analytical groups; all of which operate within a budget. Purchases made by these groups require approval from line manager and the purchasing or procurement office. The budget includes consumables (over 60% of the budget in a typical lab!) and large capital purchases. An effective lab manager looks beyond the immediate costs for each item and understands the lab's needs in order to justify purchases.

One strategy to optimize your budget is to anticipate future needs—rush orders are expensive and a large source of wasted funds.

> **The Quartzy Shop can centralize purchasing requests and provide insights into purchasing patterns, allowing for a more predictable budget forecast.**

For reagents with long shelf-lives or frequent use, it can also help to purchase larger volumes, which tend to have a lower per unit price.

> **Quartzy's inventory and purchasing capabilities combined with dedicated team members can help your lab stay ahead of supply exhaustion, allowing your group to restock without sacrificing lab funds to expensive shipping.**

Large equipment or bulk consumable purchases are also an essential part of the budget. For these large ticket items, an effective lab manager must be able to articulate the value added to the lab. This means when the lab wants to buy a new machine, the lab manager must understand how this purchase will save time, increase reproducibility, or expand experimental capabilities. Justifying the benefits clearly to those responsible for procurement is an essential skill.

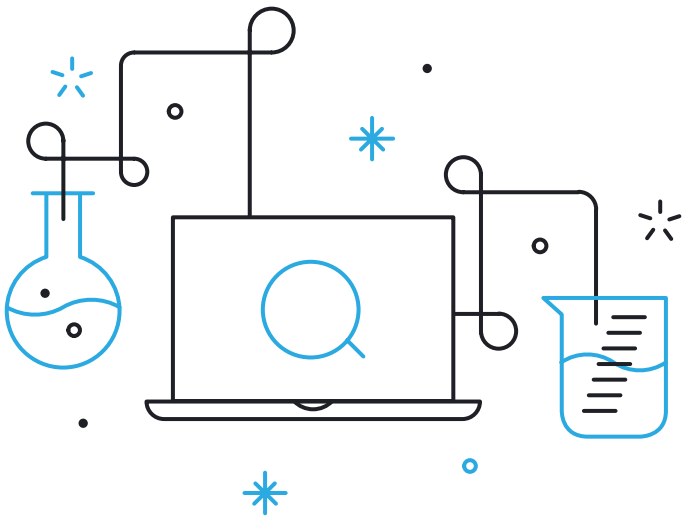
5 Make It Easy for Lab Members to Find What They Need

At this point, your lab is organized, you have open communication and positive relationships with your lab members and the purchasing department, and you have preferred vendors for your reagents. Now it is crucial to make all the tangible benefits accessible to your lab members, especially when they are planning or preparing to execute an experiment or workflow.

Implementing an online inventory system for reagents that can be accessed and updated by anyone in the lab can simplify everyone's work and enhance productivity. Lab members can conveniently check the inventory from their computers or smartphones to determine if a specific reagent is in stock and its location. The updatable inventory also empowers lab members to note when reagents are running low and to request more. This collaborative approach allows all lab members to serve as your eyes and ears regarding inventory status, making your job easier and ensuring everyone has the most up-to-date information.

Quartzy offers a customizable lab inventory function that goes beyond simply listing reagent names and product information: it allows inclusion of details pertinent to your specific lab, such as location, storage conditions, expiration dates, and supplementary documentation, even for homemade reagents such as buffers and frozen cell lines. Location can be noted down to the individual shelf and position in a freezer and even to an individual slot in a tube box. This is especially useful for finding things in a freezer or liquid nitrogen container, where time spent looking for items is typically time spent with the freezer door open or boxes sitting at room temperature, which can be problematic for freeze-thaw sensitive items.

> **By accurately documenting item locations, you can save time, prevent damage, and avoid wasting resources on futile searches for missing items.**



6 Optimize Supply Lines

As noted in previous habits, lab members' preferences and behaviors play a significant role in purchasing decisions and selecting regular vendors. Unfortunately, unforeseen circumstances such as product shortages, lot-to-lot variability, or product discontinuation can disrupt the availability of your regular stocks.

> **An effective lab manager should have alternative suppliers in mind to keep supply disruptions from becoming lab disruptions.**

When identifying alternate vendors, it is valuable to consult with your lab members, leveraging their expertise and knowledge of vendor reputation and reliability. Their experience can also shed light on which products can serve as viable replacements and which ones to avoid. In cases where the lab lacks experience, you can rely on Quartzy's recommendations in the Quartzy Shop, which features products that have been thoroughly vetted by life science product experts. The Quartzy Shop recommends equivalent or superior items through a dashboard, saving time compared to manually vetting individual supplier websites and reviews.

> **The Quartzy guarantee ensures that the recommended items are high quality and available at the best prices.**

7 Recognize that Time Has a Price

A crucial part of making a research budget go further is to reduce stalled experiments or unnecessary repetition due to missing reagents or technical issues. The old saying, “time is money,” holds true, and an effective lab manager is aware of the tradeoffs of doing tasks or making reagents in house versus purchasing ready-to-use items or pieces of equipment. Reproducibility is king in research and analytical tasks, so deciding whether to perform a task or prepare a reagent in-house versus purchasing it needs to be considered from more than just the line-item view.

The members of your lab often juggle multiple tasks and workstreams, so equipment or a process that frees up their time or uses less of an expensive consumable may be worth considering. An effective lab manager will communicate with the team and seek input on workflow bottlenecks and proposed equipment purchases and will be prepared to articulate the cost-benefit to the line manager.

Just as you would consider the cost-benefit of preparing something in-house versus purchasing a prepared item, time spent on administrative tasks also has a price.

> **The Quartzy platform saves time by centralizing inventory, requests, and an online marketplace to a single platform, allowing you to spend less time on ordering and more time driving research forward.**

> “With Quartzy, I went from 20 hours a week ordering supplies and managing inventory to only 4 hours a week. Add, the subscription essentially pays for itself with how much we’ve saved on ordering lab supplies.”
>
> **Holland Pritchett, Lab Operations Manager, BIOMILQ**

QUARTZY

Quartzy is a lab management system that centralizes how you manage and request supplies: a robust, accessible-from-anywhere inventory management system and e-commerce platform allows you to keep track of your lab's inventory and shop from thousands of suppliers—all in one place.

Request a free trial and see how Quartzy can simplify your lab's operations.

Request a Free Trial

quartzy.com support@quartzy.com 1-855-QUARTZY