

Why Audit Warehouses?

Most of our attention to the audit process in this publication has been focused on “how to” but, underlying all this commentary is “why?” Auditing any operation is hard work. Indeed, some may believe that there are insufficient potential results to justify the effort involved.

Just as people get sick, warehouses have the ability to slip into trouble. Typically, the trouble does not strike suddenly, but creeps up in almost imperceptible ways, and is not noticed until it is difficult to correct. Deterioration of customer relationships is one example of trouble that can be very difficult to detect until it is too late and the damage has been done.

Management looks for benchmarks, or standards, and frequently they have not been established because measurements have not been kept. When data gathering is part of the audit process, it is relatively easy to create and revise performance standards. Management wants continuous improvement in profitability, but few people have reliable metrics to gauge the profitability of the warehouse operation. Measurements also serve as a baseline to consider new technology. The starting point of such considerations is to create a reasonable estimate of the benefits that will occur if the new technology is acquired. As processes are audited, you are likely to uncover redundancy in the form of reports and tasks that are assigned simply because “We’ve always done it that way.”

Relationships with people are fragile, and frequent examination of the people management process also can provide an early warning of potential trouble.

We also audit the physical side of the business: Facilities, housekeeping, and, inventory. The audit process provides early indication of related changes.

As we examine the “why” of the audit process, each of these points will be considered in greater detail.

Staying Healthy

The first reason we audit warehouse performance is to provide an early warning that the operation is slipping into trouble.

What are the signs of trouble in a warehouse? Illness can strike suddenly in people, but seldom is trouble a sudden occurrence in the warehouse. Recovery from illness also can be sudden, but we have never seen a troubled warehouse recover quickly. Because it is easier to correct the condition and reverse the process when slippage is detected in its earliest stages, the best way to maintain good

health in a warehouse is to create metrics, reports, and inspections that serve as an early warning system.

Housekeeping provides an excellent example. Good housekeeping is a matter of habit, as is bad housekeeping. When the appearance of a facility starts to change, there are always reasons. Perhaps the work crew is “too busy,” most likely meaning that management has set other priorities before housekeeping. Sometimes a single supervisor sets a poor example, or no example at all, and housekeeping in his/her department begins to deteriorate because the signal has been received that nobody cares. When sloppy habits become firmly ingrained, they can be difficult to change. For this reason, housekeeping requires constant monitoring, to ensure that excellence becomes a habit.

Damage control is another case where slippage can occur over time, as bad habits set in. Warehouse damage is often caused by careless, or sloppy handling. Observers have noted that most individuals drive their automobiles by habit, so a reckless driver handles every vehicle carelessly. The same habits can govern the operation of mobile lift equipment. Bad habits can be corrected by training, so training should be included in the audit process. When a warehouse crew has become accustomed to a certain level of warehouse damage, there is a tendency to accept the *status quo*. A regular audit process can assist management in discovering and correcting high levels of warehouse damage. In many cases, the audit might uncover an external cause, such as inadequate packaging.

Monitoring Customer Relations

The prime reason for the existence of warehouses is to provide better customer service than would be available without the operation. Relationships with people can be fragile and transient, changing as the people change. A warehouse manager who has maintained an exemplary relationship with one customer may need to behave differently if a key person at that company is replaced by an individual having different priorities and a different personality.

Customer relationships depend upon perceptions. Warehouse service is only as good as the customer *perceives* it to be. Those perceptions can change for subtle and irrational reasons, as basic as two people who are unable to work together.

For the warehouse service provider, customer relations are the lifeblood of the business. Consider this example. A

multi-city warehouse service provider replaced its retiring chief executive with a new individual. The new CEO was well liked by his subordinates, but over time it became apparent that his relationships with customers had developed some serious flaws. Only after the company had lost several of its largest customers, did it become apparent to the Board of Directors that the CEO had to be replaced. Within a very brief period, under this administrator, the company's customer relationships sustained serious damage that took many months to repair.

For the private warehouse operator, there may be several kinds of customers, both internal and external. For example, the distribution center for a specialty retailer exists to provide dependable service to the stores. In this case, the store managers are the customer. For the e-commerce or mail order fulfillment center, the customers are individual consumers. In some warehouse operations, the consignee that receives the shipment may be the customer's customer; yet, that consignee is truly the most important judge of our quality.

We monitor customer relations by asking the customers how they feel about service levels. It is easier to survey a relatively small number of store managers than it is to monitor the perceptions of millions of mail-order consumers; yet the measurement of customer relationships requires a constant need to ask everyone, "How are we doing?" When slippage is detected, we must find out why.

Auditing For Process And Cost Control

Does our warehouse operation cost more than it should? We can answer that question either by comparing our costs with those of similar warehouses, or by undertaking an engineering analysis to compare our operations with a productivity standard. Sometimes we arrive at a cost benchmark simply through historical analysis, and the presumption that costs this month should have some relationship to costs for the same month last year, or three years ago. If we control several warehouses, it may be useful to compare various cost areas for each operation.

In addition to cost control, we need to consider process control. We audit to determine if there is one "best practice" for order selection, and whether or not each and every order picker follows that procedure. Process control includes sequence, so we audit to determine whether or not the order in which jobs are being done is the best possible sequence, or whether the sequence followed in warehouse B is superior to the sequences used in warehouses A and C.

The new battleground for warehouse productivity improvement is information systems. Does the warehouse you are auditing have an information system that performs as well as it should? Are alternate systems in other warehouses better than the one used in the warehouse you are auditing? Just as we search for best practices in order selection, the audit should include a search for the most appropriate system for processing information.

Part of process control is the discovery that some operations, and even some warehouses, are redundant. Some operations that we perform quite well should not be done at all. Staging is one example. Automated checking and improved quality control have eliminated the need to stage and inspect at many receiving and shipping docks. If

this is the situation, and staging is occurring, it would be exposed as redundancy during an audit, and recommended for elimination.

Auditing To Maintain Quality

For the company placing high priority on quality control, the purpose of the warehouse audit is to be certain that the quality standards established elsewhere in the organization are maintained at the warehouse. For example, a quality audit might focus on lot control. In the production of pharmaceuticals and other products, each item may consist of several production lots, and each must be separated. Sometimes the newest lots are held in quarantine pending a quality clearance. The auditor verifies that all lot separations are maintained.

Auditing The People Relationship

Some companies take great pride in maintaining superior relationships with their workers. Many find it easier to maintain such relationships in the office than in the warehouse. Those companies intending to maintain a union free workforce recognize that warehouse workers may be more vulnerable to labor organizing drives than other company employees. For these reasons, the monitoring of interpersonal relationships is a necessary part of the audit process.

Our skill in managing people has quantitative as well as qualitative measures. We measure quality by asking people how they feel about their jobs, and quantity by examining employee turnover.

Monitoring Physical Assets

The two physical assets of prime concern in warehousing are inventory and storage facilities. A continuing storage density calculation should show our progress or lack of same in changing the number of units that can be stored in each square foot of space. The auditor may explore ways in which storage density can be increased through various kinds of mobile lift equipment, different types of storage rack or improved packaging.

While all warehouse managers must control the inventory they store, a few of them proceed from inventory control to inventory management. In the management function, they may discover that some of the items now in the warehouse could be eliminated with little or no impact on customer service; therefore, the audit process should do more than measure the success of inventory accuracy and control. It also should identify opportunities to improve the management of the inventory.

Justifying Warehouse Improvements

Warehouse managers often are competing with manufacturing, marketing, and other departments in the search for capital appropriations to improve their operations. The financial officer may be more impressed by a new machine for the factory than a new lift truck fleet for the warehouse. The audit process can be used to help management sell the financial people on approval of capital investments for the warehouse.

Every capital expenditure in the warehouse is justified by savings in space or time. We improve utilization of existing space by increasing storage density. If the purchase of lift truck equipment and/or new racking is needed to

improve storage productivity, the capital investment in that equipment is justified by the avoidance of leasing outside space or construction of additional warehouse space to handle a growing inventory. If space utilization has been tracked on a continuing basis, the process of demonstrating a payback is far easier than when no benchmarks for storage productivity exist.

For example, management may consider the option of constructing a 10,000 square foot addition at a cost of \$30 per square foot. As an option, the \$300,000 investment can be avoided or delayed by investing \$100,000 in storage rack, \$40,000 in narrow aisle trucks, and \$10,000 for labor to rearrange the warehouse. In this case, the capital cost is half the cost of new construction. By calculating the number of additional pallets that can be stored in the revised layout, justification is created that should be approved by the financial officer.

We improve productivity (use of time) by examining material handling. There are at least four ways to improve handling output: They are as follow:

- Use facilities and equipment for longer hours with multiple shifts
- Eliminate redundant processes, such as staging
- Refine and improve procedures, such as order picking
- Use technology to replace people

Consider this example: For \$300,000, you might purchase a palletizing machine that will arrange individual

cases in a specified pattern on a pallet. By using the machine on multiple shifts, you might replace the labor of four workers. The fully burdened cost of each worker is \$2500 per month, or a total of \$10,000 for the four people. The payback on the investment is 30 months (\$300,000 divided by \$10,000). The investment might be difficult to justify if the audit process had not provided good estimates of the current hours employed to manually palletize cases, and the burdened cost per labor hour.

When the labor market makes it impossible to find qualified people, tools to improve handling productivity become easier to justify. The labor market, as well as financial analysis, will influence the justification decision.

Putting It All Together

The process of auditing warehouse performance is sometimes ignored and frequently misunderstood. It is far more than a practice of giving grades or dispensing discipline. It is more than benchmarking, though comparisons may be part of the process.

Warehousing is deceptively simple. Many believe that the function is so basic that any manager can run an effective warehouse, but when the operation does not run smoothly, they do not understand why. We audit warehouse performance to get an early warning of trouble, to facilitate the search for best practices, and, to create an audit trail that records progress in improving the utilization of space and time.

A Three-Step Approach To The Performance Audit

Three charts shown below are used by a wholesale distributor to track the most critical elements of warehousing: quality, productivity and service.

Quality is measured in the “lines shipped accuracy” chart that shows how seldom customers complained about shipping errors. Productivity is shown in the “lines shipped/man hour” chart. Service is shown in the “orders shipped on time” chart, which tells the percentage of orders received by 4 pm that were shipped on the same day.

