

The Visible Supply Chain: Implementing an Automated Internal Package Tracking System

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Introduction

In any institution of sufficient size a supply chain utilizing manual processes is invisible. Using a manual package tracking process is inefficient and internal customers have difficulty locating newly delivered packages and equipment within the organization.

One way to make the supply chain more efficient is to make it automated and visible to internal customers. When internal customers can determine package location within your institution they are generally more satisfied with your job performance.

In addition, an automated process allows managers to apply measurements to individual employee performance thus allowing managers to more easily adjust the workload to increase efficiencies. An automated system allows the manager to adjust the supply chain to reduce bottlenecks and redundancies.

The Environment

Many institutions are centralizing their purchasing and distribution functions to take full advantage of volume pricing practices now offered by many vendors. Institutions that combine those purchasing strategies while utilizing the efficiencies of central receiving usually produce an environment that can encompass thousands of delivery points. While deliveries to all these points are normally not done on a daily basis, distribution personnel can easily deliver to hundreds of delivery points daily.

For example, the University of Arkansas for Medical Sciences has almost 8,000 employees situated in over 9,000 rooms located within 100 buildings. Central receiving accepts hundreds of packages daily with some for immediate delivery. Distribution personnel receive and deliver over 200,000 pieces of equipment and supplies in a year. Some of these deliveries are incorrectly routed, incorrectly delivered or simply lost in the course of any given week. It is naïve to think that any system of this magnitude can expect 100% efficiency, but especially in a healthcare environment, you may be dealing with critical items whose loss would set back someone's recovery or research.

As a paradigm illustrating this economy of scale, our institution purchases office supplies from a major distributor. The institution places an order using only one pur-

chase order a day. The distribution department upon receipt of that purchase order repackages that order for separate deliveries. The distribution department then makes those deliveries to all the ordering departments (could be as many as 50 in a single day). The vendor receives one large purchase order with one delivery point - a cost saving for them. The institution reduces the number of purchase orders produced and accompanying invoices thus streamlining the supply chain process by reducing much of the indirect procurement costs in the process.

Problems

The use of manual receiving and delivering logs consumes hundreds of FTE (Full Time Employee) hours a week. To locate packages that departments report as "lost" requires many hours of review of those manual logs. This process is both time-consuming and invisible to those internal customers.

Sometimes the answers to simple "where" questions, asked by an internal customer, may take distribution personnel hours or days. Sometimes the answer is simple and can be that the item was delivered to the office next door because the inquirer was out at the time of delivery. Although this answer is considered "good" in that the package was located, the customer is unhappy with the time required for an answer. This process is both inefficient and politically damaging to the central receiving and distribution department. Through the use of web based tracking systems employed by sophisticated carriers such as United Parcel Service (UPS) or Federal Express, internal customers have come to expect quick and easy answers to delivery questions. This level of efficiency is not possible by internal distribution personnel when they are using manual logs.

The supply chain manager requires a system that will increase efficiencies in the flow of supplies and allow internal customers the ability to find answers to their package location questions quickly. An automated system that allows internal customers access is the answer to these problems. Barcode automation answers the efficiency problem and when combined with an easy to use system, such as a web-based package look-up, it provides internal customers answers to their questions. Such systems have



been available for a number of years but high software and equipment prices have kept them out of the reach of most medium to small institutions. With the introduction of leasing arrangements this no longer need be true.

Implementation

As with any project, the first step is to determine specific needs for your institution. The supply chain manager must assess the institution delivery and receiving needs. This assessment involves both software and hardware requirements.

In this analysis, please do not overlook the mechanism that will provide internal users access to the system, as this is the portion that allows the process to become visible to your internal customers. This mechanism should be simple, universal and easy to maintain (preferably automated). Making the system visible reduces dramatically the number of "trouble" calls currently fielded by your personnel.

After the needs assessment, vendors supplying both software and hardware solutions should be contacted. Vendors will have various solutions and the supply chain manager should check references to ascertain after-sale support (both software and hardware) of each prospective vendor. Remember this may easily be the most important factor in your vendor selection.

Another important factor is training for your employees. While these systems are generally easy to use, your employees will need to fully understand the new delivery process along with the system itself. There will be a learning curve for even the simplest of systems.

To alleviate the natural fear of a new process, I explained that using this new equipment would be like riding a bicycle for the first time. They would "fall off;" but that this was expected and would not be considered "failure." I told them just like falling off a bicycle they would pick themselves up and try again. We also maintained our manual logs for about thirty days after the system was functional as

a way to ease everyone into this new environment.

After a vendor is chosen, the supply chain manager should meet with his personnel and explain the new automated processes. The vendor should be present at this meeting to answer technical questions. Employees must be shown the system benefits and the manager must elicit their general acceptance. The paperwork reduction alone should make this task easy for the supply chain manager (remember this is several hours a day per employee).

Once implementation is started plan on three to six months of training and system modifications (no system will work for anyone "out of the box"). Implementation training will vary depending on the number of employees involved and their level of sophistication regarding automated equipment. The concept of barcode scanners is not new and should not be a difficult adjustment for most employees.

One factor to consider after implementation is employee reduction or re-utilization. The introduction of these systems will provide the supply chain manager with some efficiencies that will allow them to either reduce staff or redirect some staff to other tasks. Some managers may need to use the dollars saved in staff reduction to pay for the new system. This is especially helpful in tight budget situations.

Summary

An automated internal package tracking system can help the supply chain manager administer their department more efficiently. With the introduction of software and equipment leasing, even small and medium sized organizations can take advantage of implementing such a system. The introduction of an automated system can make the process visible to your organization thus reducing customer inquiries and complaints. Making the supply chain visible can have a positive effect on your institution and your career. ◆