12 Steps

for

Inventory Success!

Introduction

'Fish are the last creatures to discover water' is a saying that explains much about what we know of inventory management. As children, cleaning our closet or making the bed was just a 'bullying tactic' our parents sprang upon us from time to time. We really didn't understand the point and could always find something more important!

Somehow, 'house chores' rides the same 'neural network' as inventory management. We find many excuses to avoid it. The result is that we always hold back from giving our ALL to this effort because we doubt our efforts will be rewarded. We resent not being able to start the whole venture over and don't want to sign on with a losing team. There is some very sloppy inventory out there!

If only we could be like a master of Aikido and flip this opponent to our advantage? Now, inventory would work for us and service our needs. In southern California they might say, "Inventory would be our bitch!" Imagine the feeling of mastering this resource and making it work for you? Think of the time savings you could spend elsewhere? Now, we'd have more time at the helm, realizing the bounty your inventory holds.

The '*12 Steps for Inventory Success*' deals with the practical nature of evolving an ongoing inventory operation with the minimum of disruption. We've organized our approach so that each step rewards your business. There's no need to race through them all. Take them at your own pace and gauge your own progress. What a wonderful feeling you might experience having this opportunity to really make a difference!

We hope this incentive will allow you to take a fresh look at inventory management. Consider the possibility of doing it right the first time? Maybe you and your colleagues will find a cooperative approach and avoid the traditional debate and confusion. Wouldn't it be nice if you saw light in the saying "**Measure Twice, Cut Once**"? This is our message.

We'll be covering these three types of inventory;

Consumable Supplies
We'd like to know what we've got and maintain practical quantities. We don't want surprise trips to Office Depot each day! We'd like accurate

Resale Inventory
Here we want to fulfill each order and understand how much we should carry. Let's always know what we have to sell and when we can ship it.

Assets
Let's find the quickest way to conduct our yearly inventory. We'll also evaluate whose using or has these assets and how much we're spending to operate them.

1. - Categorize

'Category' is the key that unlocks the door to understanding inventory management. It is the fundamental building block upon which successful operations are launched. It's as fundamental as the role of carbon and oxygen in building life on our planet. Effective Inventory management cannot exist without categories. In this chapter we teach you the decision process to formulate your own and gain from their bounty.

You'll see that the following 11 steps are built upon this foundation. Categories are the road map that steers us through this management approach. They create a simple and logical path that can be understood by anyone. They are the lighthouse by which we navigate this course. Each of the following 11 steps will be approached by category.

The idea is this simple: You only have so much time and energy each day. To succeed and you must learn to prioritize. Smart people learn to focus their time pursuing the greatest rewards. Understanding categories will keep you focused on your game and out of the sand traps.

Inventory managers have all heard about the '80 – 20' rule. Spend 80% of your time and effort on the 20% of the inventory items that are critical. However, few have been told how to find that 20%. We reveal this process allowing you to shepherd your energies most productively.

Our daily life is shaped by our own personal categories.

We find money for things we like.

Somehow, we find time to watch our favorite games or shows. We spend most of our free time with those upon whom we depend.

The world throws us many twists and turns, but in general 'level of importance' influences where we spend our time and attention. Limited time forces us to categorize.

In our work world we only have so much time and must establish priorities. Inventory priorities follow the same 'time –

importance' equation and usually involves factors such as these;

Expense of an item(s)
How hard is it to find and buy or replace?
Is it perishable?
Will it become obsolete?
What is the lead time to replace?
Is it hard to find the right quality?
Who will do the purchasing for this?
Are these used frequently?
Where do we keep them?
Environmental issues?

The answers to the above questions will help you group inventory into categories. Normally, you'll have more than **10** and less than **30**. Categories should be physically apparent and understandable to the newest worker.

If you have too many categories you defeat their purpose. When one item could be one of several categories you create ambiguity and confusion. Inflated categories create situations where there is 'debate' upon what category should be chosen. Keep them simple and straightforward.

Your success at this endeavor will be rewarded many times in the following chapters.

2. - Part Numbering

We hope to save you the heartache of 'significant part numbers'. It's not uncommon to find a part number such as T36R-4300-98EE. The author of this masterful cryptic decoding scheme has since moved on and no one really remembers what the coding scheme revealed. Generally, the longer the part number the more people have gotten their hands into re-inventing them. To add to this malaise, there's always a certain amount of 'stretch' that results from new and discontinued parts.

There was a study done years ago of human transcription accuracy. They found that as the length of the entry increases arithmetically, that the error rate increased geometrically. The test subjects were asked to enter lists of 14 character part numbers and on average 38% of these entries were wrong. Additionally, when longer parts are printed as barcode labels they become awfully big and sometimes can't be applied to smaller packages.

This is really a sad waste of resources as all computerized

inventory systems present the description every time the part number is printed or displayed. So why worry about some 'secret decoder' scheme when the answer is always right in front of you, anyway? These factors strongly support a part numbering scheme that is as short as possible and has no 'significance'.

Now let's create our template. We'll assume that we'll always have less than 99 categories and we'll never have more than 999 unique parts per category. This is an easy assumption to make and gives us plenty of room to grow.

Using this template our first part number will be 01-001. We preface the part number with its category and show the order in which this item was entered (or sourced) into the new system. The dash after the category makes it easier on the eye. The higher the number the newer the part.

It's important to consistently use our template. The main reason for this is that computers sort alphanumeric values in a weird way. Here are some examples of the way a computer thinks it should sort;

1
10
100
2
20
200

You can see here that if the overall length of the part number isn't the same, strange things can happen to the sequence.

When newer versions of the same part are required it is usually easiest to add a letter to the end of the old part (ex:01-001A) to describe this evolution.

3. - Location Strategy

Deciding your location strategy is a balancing act between the time it takes to define locations and the time it takes to find an item.

One extreme would be to set up an automatic retrieval system with one specific location for each item of inventory. When you wanted to retrieve an item you'd simply push a button and it'd be there. The other extreme is to just throw inventory anywhere in the building and then relying on lots of time (or luck) to retrieve it.

Your categories should determine the priority of this location strategy. Insignificant and inexpensive items shouldn't have complex location schemes. Critical inventory should be easily found.

There is a wide and diverse range of technologies available to store inventory from automatic retrieval systems to simple rows and bins. Priorities will dictate which of these you choose.

The politics of natural disasters and terrorism has created a big push towards emergency relief inventory. This inventory flows from huge pallets on a C-47, to warehouses and then trucks and then local aid

stations. Location, in this example is a function of time and locations disappear as items move.

The most complex locations should be set up as Building – Room – Row – Shelf – Bin. Normally, operations will simply be row – bin. Normally, rows are described numerically and shelves alphabetically as few rows having more than 26 shelves. Remember, using just the two fields of Longitude and Latitude, we're able to find any point on the entire planet.

Just as we showed in Part Numbering, you should create a template for locations and stick with this for consistency and correct computer sorting. Letters have 26 possibilities and numbers only 10, so use them whenever possible. You'll be surprised to see how many combinations you can fit in one 10 character location field.

Assets usually share these same concepts but are only defined to the room level, so an asset location might be more like Bldg-Room. You don't need to define all of your locations at once. Simply insure they have room to evolve.

4. - Prioritize Categories

Having categories and not prioritizing them would be like a peanut butter and jelly sandwich without the bread. The glory of categories is that they allow you to establish priorities and this is our next step.

See the first step on Categories to see factors that effect setting up priorities.

We're now going to use these factors to prioritize our categories. The first category number should be the most important and the last, the least.

5. - Barcode Label Placement

Doesn't do much good to have inventory labels that no one can find. It's usually easiest to develop label placement strategies based on category.

For those of you who've wasted time looking for the barcode tag we describe some common sense approaches.

Usually the way we stack or package items has much bearing on where the label should be. In examples of fine artwork, we don't want the asset label to be readily visible as it detracts from the beauty of the object. In this case it's important to agree where we'll HIDE the label.

Some unique items won't have the label directly applied to them at all. In 'freestock' items that really aren't big enough to practically label, we'll attach the barcode label to the bin or basket that holds them.

Items such as weapons or fine jewelry might find it impractical to apply a label and in this case we can create a template with all of the items meeting this requirement and scan the template when performing inventory duties.

A firetruck is an example of this. Items here are too roughly treated for a label to adhere to OR to stay clean enough to read. Each firetruck has a template that is printed with the items that reside in its chassis. This template is plastic coated and remains in the glove compartment for transacting inventory issues.

Try to apply labels in a way that reduces the time required to perform an inventory. Sure, once an item is pulled from the shelf it's easy to turn it around to scan the label. But when inventorying, it's nice to just push or slide the unit slightly to reveal the label.

6. - Enter Parts by Category

Few companies have the luxury of starting a new inventory system from scratch. Most have to conduct business while evolving their new inventory system into full operation. To make changes to a moving target requires an implementation plan that accomplishes the objective without being disruptive.

Once again, we gain another benefit from categories. The implementation of a new inventory management system should be accomplished in category order. We'll enter items in the order of the categories we've previously prioritized.

This implementation plan will answer such questions as;

How will we let everyone know where the implementation plan stands?
When will we start maintaining critical information for the category?
When do we stop using the old system for a category?

We'll create a workable implementation plan and share this information with all levels of personnel. A good idea is to place a large visible 'Progress Board' somewhere announcing the progress of implementation.

The 'data entry' team will enter items one category at a time until it is complete. There is much time savings in this approach as you'll be able to print out barcodes nouns to describe items for this category. Descriptions that are scanned from a barcode template and thus always spelled correctly. This insures future description searches will yield more accurate results. Included in this entry we'll gain accurate locations and counts.

Once a category is completed in this fashion, it should be posted to this 'Progress Board' and from now on, all inventory transactions for the category be entered into the new system.

Simply, continue this evolutionary method until all categories are entered. The luxury of converting inventory systems using this method is that 'there is no hurry'!

7. – Conduct Inventory by Category

The entry process we performed for each item of inventory not only established the part record but also counts and locations.

Remember, that the category determines the counting policy. Usually, all items for a category will be counted and located at the same time. However, we will perform statistical random samplings of our counts from time to time.

When the internal controls for this category dictate, the collectors should have nominal information about the parts they're counting. The reason for this is that an unscrupulous counter could simply read the current information from the computer system and re-enter it.

Obviously, we don't want a situation where there are 'lost' counters wandering around the inventory floor, but to give the 'collector' too much information can invalidate the process.

The two types of information we're trying to understand is;

What has moved?
What counts have changed?

An ancillary portion of any count is to establish damaged items that can range from vandalism to missing barcode labels. When presented with these variances appropriate decisions can be made.

8. - Source Vendors by Category

Vendors are people, too! The more complete information you have about a vendor, the more effectively you can deal with them. Often times, this equates to better pricing and performance. This can also help with learning about to new parts and pricing that become available.

Once again, we'll approach the task of sourcing vendors for each part using categories as our road map.

Doing your homework and gathering vendor information BEFORE you need it saves much time when making re-supply and repair decisions.

Once you have this accurate vendor information you'll build upon it by maintaining a history of dialogue and correspondence. If this history is maintained in your database it will allow a new purchasing person to 'get up to speed' sooner.

Most importantly, the new purchasing person will be able to view the history of purchase quantities and costs to make better buying decisions for the company.

9. -Evaluate Usage by Category

It's important to evaluate your inventory usage for these reasons,

Identify obsolete items
Understand best ordering levels/ prices
Cultivate vendor motivation

Understand dollar impact

Usage is the road map that determines ordering policies. Unfortunately, usage information improves over time and at the beginning of operations is hard to discern.

Your inventory system captures usage by period and year. Normally, you'll define these periods to be consistent with your accounting requirements.

For asset inventory, we'll want to take a look at how often these are being used? Assets will have a transaction history describing reasons for usage. This information can be used to tell if this asset is paying for itself.

Usage figures will also expose obsolete inventory. This should be 'credited' from the asset portion of the balance sheet to support accurate accounting procedures. Dead inventory serves to dilute profitability by reducing asset/ profit ratios.

Remember that any item of inventory has a theoretical 'carrying cost' such as square footage to store, insurance to protect it. Never assume that it is free to carry obsolete inventory.

Vendor relations should be closer with high usage items. Often times, you find more competitive pricing or alternate parts that are more cost effective.

10. - Ordering – Maintenance by Category

Historical usage reveals the 'road map' for ordering inventory items. Normally, usage figures have more impact when multiplied by unit cost to generate aggregate dollar amounts.

Ordering policies are a function of experience and most often revealed through vendor negotiation and pricing. There are two general ordering policies:

Buy to stock
Buy to order

In one example we decide to keep the inventory on hand, the second we purchase expressly for a distinct need or application. 'Buy to Stock' items generally use a 'safety stock' and 'replenishment' quantity. If we were ordering beer, we'd probably keep enough to drink (or safety stock) while the purchaser flew to the liquor store for more. In this example sixpacks would be the 'order multiple' and our 'order quantity' would be divisible by this. If we took into account the liquor store run AND having to cool these down before drinking we might increase our 'lead time'?

Purchasing policies should be similar by category decision issues shown in chapter one.

Usage of assets determines how they should be maintained. This usage information allows you to gauge recommended maintenance procedures . In some cases usage information will also be used to depreciate assets based on units of output.

11. - Evaluate Location – Shelving by Category

Usage information and anticipated growth will describe the 'road map' of how best to store your inventory. Because all businesses must react to the marketplace, these questions are not static but a moving target. Just because current locations are working fine is not to say that your future objectives will modify this plan. Don't become complacent of this as your location strategy should be viewed a dynamic asset.

How long is it taking to find inventory? Does this location hold sufficient quantities to meet your periodic demands? Are these shelves safe and accessible by all who need them? Is there new shelving technology that would be more cost effective?

Your location and shelving strategy will answer these questions and is best approached by category.

Storage space is not free. It should be gauged as any other asset whose goal is to deliver optimum profit.

Don't be afraid to utilize your new wealth of information re-think your inventory handling strategy. It's ok to move items. Your return from storage space is a function of how intelligently its used.

It's really not as difficult as one might imagine to change an item's location. Simply move it to the new location and scan the appropriate barcodes. If the time required for this move is rewarded by faster item retrieval, don't be afraid to make the change. Shelf space should be seen as a stage where it's ok to strike the set and put up another.

12. - Evaluate Make/ Buy/Rent by Category

Having achieved the preceding steps by category, you've been able to build a watertight database that reveals complete information

about your inventory. Now, you can make more informed decisions with confidence.

There are some 'hard decisions' that every operation must eventually ask itself. The first is "Should we be in this business"? Owner's and stockholders must ask "Does the money I have invested in this operation yield more short/long term profits than the equivalent amount invested in other financial instruments"?

Similar questions an organization must ask itself are is wise to 'carry' inventory at all, or search for alternatives? Sometimes it's most profitable to have the original manufacturer ship the product while you invoice. A successful inventory system will provide information to answer these questions in no uncertain terms.

The accounting people in your organization can roughly describe your total monthly inventory carrying costs. This cost divided by the cost of inventory describes the overhead or 'burden' associated with maintaining inventory. This 'burden' should be considered when deciding what to carry and how much?

Asset inventory presents another group of decisions. Factors such as depreciation expense, maintenance and obsolescence affect the true cost of an asset. There is a hard reality today that some hi-tech equipment (such as computers) loses their productivity after 3 years. Some types of capital equipment are purchased in anticipation of usage that's never realized. Is it better to lease or rent your assets? These types of questions can now be answered with accurate and timely information.

Congratulations! You're now in a position to look back upon your inventory journey. How does it feel? Was it really that hard to accomplish? I hope you have enjoyed this course and are able to feel like a master of your inventory destiny. Now, when challenged by inventory issues you'll be able to '***Measure Twice, Cut Once***".