

12 Steps

for



Inventory Success!

Introduction

Emergency Management has recently been boosted to the forefront of public awareness and must race to organize their operations to satisfy public expectations. This charter basically breaks down into the three areas of providing communications, people and supplies to support emergencies. The supply part of this equation is vast and the people tasked with managing this function usually don't have the training and resources required. This is not an easy task as most items required to support this effort reside at different locations and utilize different inventory systems.

What follows is a 'checklist' of what needs to be done to manage this diverse group of 'emergency inventory'. It is expected that all those starting on this endeavor will possess a barcode inventory system to organize their efforts and provide management information as needed.

Our Goal

'Fish are the last creatures to discover water' is a saying that explains much of the average persons' knowledge 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 most hold back from giving their ALL to this effort. This is because we can't see a clear strategy of how our efforts will be rewarded. Those with existing systems resent not being able to restart from scratch. We're afraid that continuing on in the 'old way' will be like signing up with a losing team.

If only we could be like a master of Aikido and flip this opponent to our advantage? Now, an inventory strategy would serve us and expose the true priorities of how we should be spending our time. Imagine the feeling of mastering this resource and standing at the helm with a clear view of where our time is most productive? Now, we'd have more time to operate proactively and not have to react to as many surprises!

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 each step rewards your Emergency Management operation. There's no need to race through them all. Take them at your own pace and gauge your progress.

This implementation outline has evolved through years of experience. Consider the possibility of doing it right the first time? Perhaps you and your colleagues will find a cooperative approach and avoid the traditional debate and confusion. We hope this plan gives you the confidence and direction to inspire those around you. There's an old Chinese proverb that goes "Sharpening the ax will not delay the work of cutting of the wood". For this reason we implore you to follow a 'game plan'.

Consumable Supplies

Your goal is to maintain practical quantities. We don't want surprise trips to Wal-Mart or Office Depot each day! We'd like accurate balances that are believable!



Assets & Equipment

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

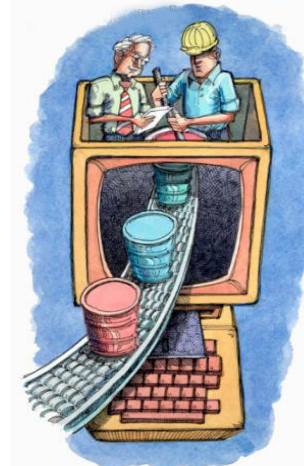
1. - Categorize

'Categories' are 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 categories and gain from their benefit.

The following 11 steps are built upon this foundation. Categories are the road map that steers us through this management approach. These create a simple and logical approach that can be easily understood. They are the lighthouse by which we navigate the 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, you must learn to prioritize. Smart people learn to focus their time pursuing the most beneficial path. Understanding categories will keep you focused on your plan 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 inventory items that are critical. However, few have been told how to find that 20%. Categories will reveal this process allowing you to shepherd your efforts 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 we feel the closest.

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 have limited time and must establish priorities. Inventory priorities follow the same 'time – importance' equation and usually involve factors such as;

- 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 leadtime 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 and least informed 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, 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 large and 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 (description) 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. This strategy also reveals that 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

Notice that "2" comes after "100"! You can see here that if the overall length of the part number isn't the same, the computer can throw a strange 'spin' into 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. This strategy allows 26 evolutions for each item.

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 on creating zero balances.

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 2 - 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 letters 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.

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 placed. 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. In this case we print a template with all of the item(s) (part number – descriptions) meeting this requirement and scan the template when performing inventory tasks. A firetruck is an example of this approach. Items here are too roughly treated for a label to adhere to OR to stay clean enough to read. Each firetruck has a template printed with the key information describing the items on board. This template is plastic coated and remains in the glove compartment for entering inventory data.

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 performing counts, it's nice to just push or slide the unit slightly to reveal the label.

6. - Enter Parts by Category

Few operations 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 disrupting the daily flow.

Once again, we gain another benefit from categories. The implementation of a new inventory management system should be accomplished by category. 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 complete. There is much timesavings 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 are always spelled correctly. This insures future description searches can be relied upon. An added benefit of this entry will provide 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 'dark holiday' that comes for most organizations' once a year is inventory day. It goes something like this. Management gives a 'pep talk' and brings in catered lunches and everyone becomes a 'counter' for this special day. It starts out well but as the afternoon hours drag on people become tired and the accuracy of the inventory counts goes down the tubes. At the end of the day, inventory is 'written down' and everyone promises to be more careful "next year" when it comes to observing issue/receipt disciplines. The hard reality is that the mind numbs and the spirit shrinks throughout this impossible undertaking and the counts really aren't that accurate!

You must escape this way of thinking and learn to perform inventories throughout the year based on 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 statistically 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. Giving the 'collector' too much information can invalidate the process.

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

*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.

8. - Source Vendors by Category

Vendors are people, too! The more complete information you have about a vendor, the more effectively we can use their help. 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. 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 being utilized and paying for itself. Usage figures will also expose obsolete inventory.

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.

10. - Ordering – Maintenance by Category

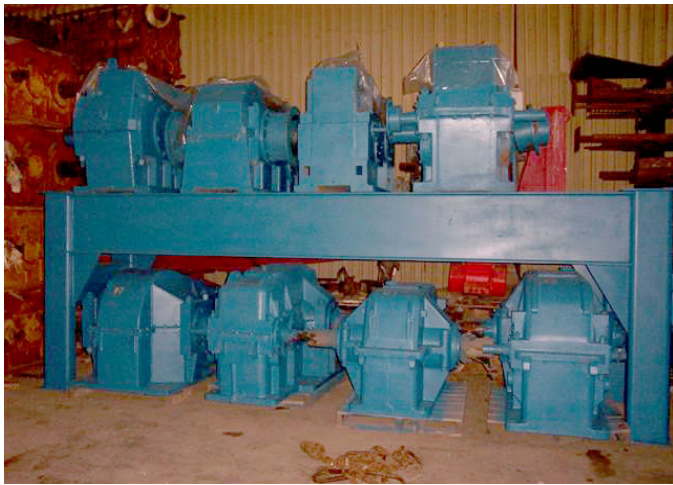
Historical usage reveals the 'road map' for ordering inventory items. Normally, usage figures have more impact when multiplied by unit cost to generate aggregate dollar amounts.

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 buyer flew to the liquor store for more. In this example six-packs would be the 'order multiple' and our 'order





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 holding these inventory items"? Similar questions an organization must ask itself are "is wise to 'carry' inventory at all", or search for alternatives?

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! If you've gotten this far, you must be sleeping easier? 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 with inventory issues you'll have pride and confidence in your accurate inventory information.

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'?

Usage of assets determines how they should be maintained. This usage information allows us 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 organizations must react to the emergency demand, 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 as your location strategy should be viewed as dynamic.

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 performance.

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 it's 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 new location barcode. 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 start over.

