

In inventory systems, only a small number of items comprise the most critical values. ABC inventory control separates the most significant items from the less important. It is used to determine the degree and level of control used. **It is based on Pareto's 80-20 rule: a rule of thumb that 80 percent of the effects come from 20 percent of the causes.**

Applications of ABC classification.

- Customer prioritization: 80 % of a company's profits will generally come from 20% of the customers.
- Inventory control: classifying inventory according to some measure of importance, and allocating control efforts accordingly.
- There are also other considerations, such as "critical items" that may have low usage, but need special monitoring because you don't want to run out of item that is vital to the service area for example. **So your definition of A items may need to be customized.**
- Setting priorities among your products
- Focusing your resources on the areas of greatest opportunity

Just because the formula may not indicate that an item should be ranked as an A item - it is your ABC classification and you should make it work for your business.

ABC Classification -

Generally under the ABC inventory control policy, inventory items are classified into 3 groups or items:

- A items: these are the 20% of the items that tie up 80% of the total inventory money.
- B items: these are the 30% of the items that tie up 15% of the total inventory money.
- C items: these are the 50% of the items that tie up 5% of the total inventory money.

ABC Classification can also group a range of items (finished products, customers, margin, revenue, cost ...) into 3 categories (A, B, C), **where each category should be handled in a different way.**

- Up to 80 % of annual revenue \$\$ or inventory cost or margin, etc. : **A items (top 20%)**
- 80 - 95 % : B items
- 95 - 100 %; C items

Some companies use A, B, C, C-

A = 80%, B = 15%, C = 4%, C- = 1%

Some companies use

A = top 5% (95% of sales, margin, cost of inventory, etc),

B = next 15% (80 – 95% of sales, margin, cost of inventory etc,),

C, D, E = remaining 20% depending on how you want to split out the remaining items.

Steps

- Select a criterion based on importance (not necessarily in this order)
 - Sales for customers
 - Usage for inventory items
 - Cost * Usage
 - Frequency for problems
 - Gross margin
 - Critical to the success of your business
 - Revenue
 - Other
- Analyze all your data in the light of those criteria
- Rank the data in decreasing order
- Compute % for each object
- Calculate the cumulative % for each object
- Assign objects into A, B and C categories
- Determine policies for each category
- Redo this process regularly

There are a few different ways to set up an ABC Ranking, such as Velocity (times sold), Quantity sold/Consumed or by Margin. Two of the most common methods are the Annual Sales Volume and total inventory \$\$.

This **Annual Sales Volume** method will allow you to identify the small amount of products that usually account for most of your sales dollars (80/20 rule). You can also use a similar calculation to determine 80% of your margin \$\$ comes from 20% of your product etc.

Here's one quick method for determining your ABC ranking based on Annual Sales Volume: It can be modified easily to do an ABC analysis by Margin or other criteria.

1. Calculate the 12 month dollar usage for all of your products (volume X cost).
2. Rank the items in descending order by the dollar usage.
3. The A items are the top 80% of the total annual usage dollars.

4. The B items make up the next 15% of total annual usage.
5. The C items are the remaining items are the remaining 5% with >0 usage in the past 12 months
6. Label zero-usage items can be labeled as D.

You will also need to make a special consideration for your newer products. If you don't have a full year of Sales Volume to reference, you need to use a yearly forecast estimate instead.

Pareto Diagram

In order to make the ABC-classification visual, the Pareto Diagram is used.

The Pareto Diagram consists of two graphs:

- A Bar Chart: the bars show a value for each object (number of times a problem occurs, sales per customer, usage of an inventory item), and are displayed in descending order, identifying the most important problems.
- A Line chart of accumulations of bars: the line shows the accumulated number of problems.

The 80/20 rule

80% of your sales = 20% of your products

