

Supply Chain Strategies

Inventory management is essential when relief supplies are transiting through a storage facility. There are several reasons why inventory management is key in the supply chain. The primary reason is to help deliver supplies in a timely manner. Managing the stock contributes to **coping with the uncertainty** acting as a buffer between demand and supply. This includes adjusting for **lead times** in the supply chain, which is particularly pertinent in international procurement. In addition, a well managed inventory can contribute to **economies of scale**: buying large quantities can reduce the cost per item, though ongoing storage costs must also be considered.

When keeping an inventory for relief operations, it is highly recommended to develop a “stock policy” aligned with the organisational supply chain strategy. Stock policies guide organisations on the decision process of keeping any type of stock in any location. Applying certain logic to stock management is the first concern for critical items in the relief operations and applicable to all types of storage facilities.

Stock policy is broadly defined by the following questions:

- Where should the inventory be located?
- What specific products should be available at each location, and in which quantities?
- When should inventory at a particular location be replenished?
- How much should be ordered to replace it?

The answers to these questions are dependent on two interrelated issues: the supply chain strategy and the type of stock.

Main Strategies

For the purpose of this guide, "supply chain strategy" refers to the logic behind the decision of moving goods through the supply chain. There are two main applicable strategies:

Push Strategy

In a "push strategy," need is anticipated before a real demand exists and supplies are “pushed” into the supply chain. The most typical examples of “push strategy” in relief operations are common in: contingency supplies as part of an emergency preparedness plan, the opening of a new program, or in the supply of seasonal items like winter kits or mosquito nets.

Typically push systems operate when the demand is unknown in quantity or time. Quantities are usually based on estimations and driven by assumption on the situation that can generate the demand.

Pull Strategy

In a "pull strategy," the need is formally expressed by a consumer and the supplies are “pulled” into the supply chain. In relief operations the “pull strategy” is typically used during short term projects, construction or rehabilitation works or when supplying expensive equipment such as vehicles or telecoms material.

The pull system operates when the demand is known in time and quantity - quantities are clearly defined and the regular supply chain activities trigger demand signals triggered from the final end of the supply chain. Generally, the pull supply chain strategy allows agencies to

manage small or individual units of inventory accurately.

Type of Stock Holding

The initial logic of a stock holding will also determine the inventory management system in place. The most common types of stock holding in relief operations are:

Buffer	Buffer stock is stock that acts as a buffer between supply and demand. It is impossible to plan perfect quantities, and buffer stocks help even out unanticipated demand. Most of the decisions in buffer stock are taken based on how much of these items should be kept in the organisation's warehouse.
Kitting	Consolidated supplies of different nature for further assembling is known as kitting. In kitting, supplies are dependent on each other for delivery. Imbalances of stock levels may lead to inefficiency as parallel inbound streams must be coordinated within the inventory. In addition, two different stocks need to be managed: one for the original supplies and one for the assembled kits.
Splitting	Splitting is when stock is split from large consignments in smaller lots to be delivered to different locations or consumers, sometimes at different moments. Splitting is mostly used to gain procurement efficiency and economies of scale. Planners only need to manage a single inbound stream, but respond to demand signals from multiple consumers with uneven demands. Consolidating these demands to calculate the amount to be ordered can be challenging, and larger buffer stocks may be required.
Contingency	Contingency stock is kept as part of a contingency plan. There is little inventory management as contingency stock suffers minimal rotation. Nevertheless, if perishables are part of the contingency stock, they may be included in a rotational stock system.
Vendor Managed	Vendor Managed Inventory (VMI) or virtual stock is kept in the vendor facilities until a release order is activated. The vendor reserves specific amount of supplies as part of its own inventory or grants certain manufacturing capacity with a specified delivery time. Although this type of stock can be used for many purposes, it is commonly used as part of certain contingency plans.

Other Stock Policy Considerations

In addition to the supply chain strategy and the type of stock holding, some extra considerations can be taken when defining a stock policy:

Financial Origin of The Product

The products in stock may have several financial origins:

- Procurement using donor funding.
- Procurement using organisational internal funds.
- In-kind donation from an International organisation, private sector, or NGO.
- Remaining materials from a particular project transferred to one or several on-going projects.

Depending on its origin, some management restrictions could be applicable: if products in stock are acquired with specific funding or for a specific purpose, the inventory levels must be managed accordingly. In some cases, these items can be considered committed inventory.

Nature of the Stored Goods

The type and nature of stock can also influence how inventory is managed. Particular considerations should be taken with perishables, consumables, or products that are essential to the program implementation such as drugs in a health program, food in a nutritional program, or fuel.

Dependency Between Stock Items

Storing products with dependent demand means that products in the stock are directly related to other stock items, including:

- **Kitting** - The consumption of one stock item entails the consumption of both.
- **Support Equipment** - Spare parts for machinery; the use of the generator requires the use of its replacement parts.

The demand for both products can either move in tandem (i.e., products belonging to a Non-food items kit) or in the opposite direction. Demand for a given product can be estimated based on the consumption of another supply.

Stock Value

Stock can be categorised according to its financial value, while stock management can be influenced by relative stock values. Understanding stock value can help to manage risks, plan expenditures on new and replacement stocks, or to prioritise resources on the areas of greatest value. However, low-cost items can be crucial to some relief operations and should not be neglected.

Level of Accounting

In the field of inventory management, a Stock Keeping Unit (SKU) refers to a specific product type stored in a specific location. The term SKU also refers to a code made of letters and numbers that identifies a product in the store. A SKU is not unique to each item (like bar-codes are), but the number used to identify each product type in the store. It designates a single item of a larger consignment. SKUs may be tied to a specific production run or expiration date and may denote only a product of specific characteristics.

The SKU is intended to be the most dis-aggregated level of dealing with inventory. An inventory with multiple SKUs will require very different handling procedures than an inventory with few SKUs.

For example, when storing buckets a decision must be taken regarding the pertinent characteristics that will define it as a SKU. Is it appropriate to account for all buckets under the same SKU? Or is it pertinent to differentiate buckets by specific characteristics like: colour, size and material, thus creating three different SKUs? The correct SKU design will depend on the type of program and the product's intended use. If buckets are only used as part of an NFI kit, the colour of the bucket may not be important. If buckets are used to segregate waste in health care facilities, the colour of the bucket may be very important. Possible attributes for designation of a SKU:

- Type
- Colour
- Weight
- Volume

- Dimensions
- Packaging
- Technical information
- Anything else

While SKUs are designed to keep track of inventory to the level of a specific product, they can also help to reconcile stock levels, to analyse which products are more demanded, or to identify reorder point for products.