
Learn Everything About Two Bin Kanban Inventory Control System

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The Two Bin Kanban System is a simple yet highly effective way of maintaining enough stock of high consumption items near the production line. This technique comes with a blend of functional benefits and strategic measures to safeguard business interests. This concept is a part of the Toyota Production System ([TPS](#)), and it aims at reducing redundancies in the manufacturing process. In this article, I am going to discuss its fundamental principles, implementation, technicalities, and impact on the organization. Buckle up to explore everything about the Two Bin Kanban System.

How Two Bin Kanban System Works

As the name suggests, this method comprises two identical plastic bins that are utilized alternately. Both of them are filled with components that are fitted onto the final product. The workers on the production line shall use the first bin until it is emptied. Once the first bin is wholly utilized, they will start utilizing the second bin. The empty one will act as a signal for replenishment. Thus, the manufacturing is continued without stopping the line to fetch the required components. In most cases, these items are used in semi-finished goods which are in the final stage of production. They are added to the base article to complete the final product, thus completing the assembly.

EOQ and Kanban: Driving This Strategy

It looks quite simple, doesn't it? Actually, there are a lot of things that go into it. This technique is aimed at reducing downtime due to the lack of small components on the assembly line. It also emphasizes keeping the output capacity constant. Here, I am going to discuss two significant factors that drive this strategy. Both of them help in minimizing complexity and maintaining the inventory carrying costs under control.

Economic Order Quantity

Economic order quantity is a method used to compare prices against order quantity to find out the best order value. When implementing this method, the inventory carrying costs lean more towards the higher end of the spectrum along with ordering costs. Here, these relaxations are provided to compensate for the risks of disrupting production. Typically, the industries where this method is applied have a fast-moving assembly line and derailing operations during high demand periods. EOQ will help the management in deciding the reorder levels based on consumption rate and lead time.

Kanban Method

It relies on visual signals to trigger the starting and stopping of the workflow. In the context of the Two Bin System, the empty bin acts as the trigger. This signal is reverted in the form of replenishment. When the worker rotates the bins, the cycle resets. As a thumb rule, the workers shall not distribute the items unevenly. Also, they shall put only the pre-decided number of objects strictly to maintain the coherence of execution with the planning.

Which Industries Are Ideal For Implementing Two Bin Kanban

In essence, the companies that function at high volumes are ideal for implementing the Two Bin Kanban approach. They also need to have products with high interoperability because using the same components in more than one product will ramp up the speed of the process. Both of these factors also indicate the need for a market that consumes the finished goods at a high rate. These products are relatively inexpensive, replaceable, and ideal for bundling purposes. I am listing down a few industries where Two Bin is applied:

- Automobile sector
- Engineering equipment manufacturing
- Home appliances
- Medical supplies
- Electronics
- Furniture

For instance, the fasteners are stored in the bins for assembly purposes. As the assembly line progresses, workers will continue to use these fasteners on identical parts. In case the variant is changed, they can still use the same fasteners as long as their design follows standardization of design as a business practice.

Advantages Of Two Bin System

Owing to its benefits, a vast number of organizations have incorporated it in one or more processes. Its simplicity, high responsiveness, and effectiveness are the primary reasons behind its success. I am listing down the advantages that hold relevance to almost all the companies using it down below:

- It ensures optimal availability of inventory
- It automates stock replenishment
- It mitigates the risk of abrupt shortages
- It allows the distribution of stock among the shopfloors and warehouses efficiently.
- It helps encashing instant surges in demand
- It gives adequate time for ordering replenishments

Limitations Faced By Businesses And How To Resolve Them

On a retrospective note, these benefits come with a price. Holding extra inventory all the time will naturally elevate the cost of carrying. This, when combined with the cost of extra warehouse area acquired, leads to a considerable increase in the total investment made as well as tolls cash flows. I also find that in situations of an acute rise in demands, the decisions regarding purchases become complex.

You can overcome these limitations by:

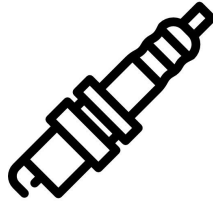
- Carrying out sales forecasting
- Improving standardization to enhance interchangeability of the parts
- Making contracts with vendors and OEMs regarding the supplies
- Coordinate different assembly lines and storage areas for internal reshuffling
- Increase/decrease the stock as per market conditions and raw material pricing

“Measurement is the first step that leads to control and eventually to improvement. If you can’t measure something, you can’t understand it. If you can’t understand it, you can’t control it. If you can’t control it, you can’t improve it.”

– [H. James Harrington](#)

I feel that you can limit these disadvantages to a certain extent, but bypassing them completely isn't possible. Hence, instead of focusing on eliminating them entirely, try to maximize the utility of the entire infrastructure.

An Example Of Two Bin Implementation



Spark plugs are used as a primary component in the internal combustion engines. These spark plugs are used in almost every model except the ones fitted with the fuel injection systems. So, the workers installing this component can use them throughout the assembly line. These spark plugs are stored in the two-bin type containers to avail of the benefits as mentioned earlier. Remember that here the item used is relatively inexpensive, generic, and doesn't rely on any specific automobile model.

Impact On Inventory Management

Firstly, the number of components placed in the bin is directly proportional to the supply lead time and usage rate. Hence the inventory shall survive the delivery period, and production scheduling is done accordingly. You will have more reorders as compared to storing in vast quantities. On the other hand, the inventory levels will remain higher than actual consumption levels.

The workers will also participate actively in the process of inventory control. I would like to bring a fact to your notice that training your employees becomes necessary with this strategy. As mentioned above, if any worker puts more or less than the desired number, the entire predictions will turn out to be vague. They have to follow the protocol and maintain consistency for smooth functioning. Line supervisors, too, need to stay more alert to prevent any problems.

The automation tools used for [inventory management](#) also play an important role in synchronizing these processes. One of the crucial things to note is that inventory management will become a bit different while using this technique. The ideal order size for your firm may not match with the supplier's discount grids. To overcome this, you can opt for VMI ([Vendor Managed Inventory](#)) contracts. They are efficient and save you from stockouts.

Metrics That Give A Glimpse Of Its Efficiency

Having excellent benefits is not proved until they translate into numbers on your balance sheets. I am listing down the two most common metrics for your ready reference. Both of them emphasize the fact that a faster manufacturing process is more profitable. They are as follows:

Inventory Turnover Ratio

It is the efficiency of the company in managing its inventory. Mathematically, it is represented by the cost of goods sold (COGS) to average inventory. A higher ratio indicates that the company is pushing the products swiftly across its production lines, and therefore, it is more profitable. This metric is enhanced due to the two-bin inventory control system.

Days Sale Of Inventory

In simple words, it is the number of days until inventory is sold. The DSI figure is also an indicator of the firm's ability to operate at higher efficiency. The lower DSI figures are preferred obviously, and having a continuous supply of stocks plays an important role in achieving it.

Summing Up

Like any other business process, you also need to weigh the pros and cons of the Two Bin inventory control system. If your products fall into the criteria mentioned above, only then it is advisable to implement this method. Also, manufacturing those items and quickly selling them as a part of your core business requirements is another necessity. Training your staff members and adopting a suitable strategy for refilling supplies becomes more manageable if you can successfully ensure adequate supplies and coordination within your organization. I hope that you found this article useful for understanding about Two Bin inventory control systems. Do share your views in the comments section.

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