

A significance of automated inventory management system

[Business](#), [Manufacturing](#)



Inventory is considered a tangible resource a firm holds in stock intending to sell it or transform it into a more valuable state. These can be raw materials, purchased parts, components, work in progress or finished products. The aim of controlling and managing the inventory is to track the inventory to ensure they have been availed to the required departments as and when needed while in high quality and right quantity. This report includes an examination of the inventory management and control concept, in particular, auditing, measuring and monitoring as applied in the industries. An elaborate case of PCAC Inc. is provided. This is through the use of an automated inventory management system. It also highlights the role and importance of logistic management to the organisation and the industry at large.

Introduction

Professional Cooling and Control Systems Inc. is a leading service provider of facility management solutions through building automation and mechanical services. It was formed in the 1990's and since grown to master that art of a total solutions provider with the ability to meet its clients' needs always and whenever required. It is based in Jacksonville, Florida, housing quite some expensive and premium items for supplying automatic HVAC services. They include drive running chillers and boilers, each with a cost of over \$15, 000 each. Its customers include Army, Navy, and Air National Guard as well as power plants and civic centres across the United States and globally. In its stock, the company has over 5, 000 costly items.

Inventory Management and Control

PCACS inventory management and control system is considered one of the most advanced in the industry within the USA. It has come a long way from a spreadsheet-based system to an automated inventory management system that has enhanced and enabled most of the inventory management and control system roles and functions.

Initially, it was a big challenge tracking over 5000 HVAC components using a spreadsheet-based system, which has now been improved with speed, accuracy, and efficiency in performance. It has overcome many challenges such as missing parts when incoming and outgoing items are logged in the spreadsheet. Initially, it was hard managing the stationary items already in stock. The results of this were rising costs in overnight shipping as well as other expenses. However, with the automated system, PCAC can get a deep insight of the inventory levels and reduce its labour hours, which are related to inventory management (Lauterbach & Koch 2012). Various procedures and regulations have been designed to monitor inventory and evaluate the levels that need maintenance when they should be added and by what amount.

Auditing, Measuring, and Monitoring

Inventory management is a series of the primary process comprising auditing, measuring and monitoring. All the above processes have been integrated into the company automated inventory management system. An audit is meant to ensure that the inventory asset is reasonably valued. PCAC deals with costly items, and valuing them is essential for adding the

inventory. They are traced in the valuation report and carried forward into the balance in the general ledger.

It includes the procedures laid out for stopping additional reception of items at the store to exclude the extraneous inventory items. The audit also establishes that the procedures used in counting the inventory are reasonable. Using automated software is more accurate and efficient over the manual system (Wang 2012). The PCAC inventory management system does everything accurately and efficiently to seal all loopholes in managing the inventory that may have any financial implications. Since the company has some inventory storage locations, the use of the system has centralised everything. An observation of the counting procedures, tags, or manual records confirms the accuracy of the system (Lauterbach & Koch 2012).

Fig 1: Details of Inventory Control

Monitoring inventory is also significant in inventory management and control. The size of the inventory does not matter since monitoring each item of inventory is crucial in cutting costs for the organisation (Arnold, Chapman, & Clive 2012). PCAC uses its inventory management software that integrates with its POS unit to monitor its inventory. Whenever an item is bought, it is automatically deducted from the inventory, which avoids the need to key in daily these inventory changes. The employees are all emphasised on the importance of inventory handling. PCAC has cautioned the sales agents on exchanging any item with the same price yet not alter the changes in the

system. The result is an imbalance that will create a problem for monitoring the items in the inventory (IEEE et al. 2013).

The company also conducts periodic hand inventory. It ensures that the actual inventory figures are equal to the stock the inventory system generates, which entails hand counting the items and verifying that the total match. The process is time-consuming and a tiring but yet necessary for inventory monitoring. PCAC also monitors the inventory through accounting for returns, exchanges, and damages. The use of the system requires that the changes are reflected in the system to avoid throwing off inventory numbers. All items returned, exchanged, or destroyed at the organisation are accounted for daily in the inventory management system. To monitor the disappearing inventory, PCAC partners with the loss preventing department. Its aim is stopping employee theft at the organisation that entails a security personnel in-charge of monitoring the stores and inventory.

Importance of Inventory Management and Control

Keeping inventory is critical in stabilising the production of goods that the organisation produces. It also allows the company to take advantage of price tags that may be associated with particular inventory orders from the suppliers. They play a significant part in helping the organisation to meet the production demand during the replenishment period. Before new materials are brought in, stock inventory sustains production and ensures everything runs smoothly (Kappauf, Lauterbach, & Koch 2012). They also help avoid the tragedy of losing customer orders. In cases of trouble securing the materials, inventory ensures that the organisation does not lose any order due to

unavailability of materials since the inventory in stock sustains production. This way, an organisation can keep up with the pace of the shifting market environment.

Fig 2: Functions of Inventory Management and Control

There are certain costs that have been associated with the entire process of inventory management and control at PCAC. They include purchase or production cost, capital costs, ordering costs, carrying or holding costs among others. However, all this is done geared towards ensuring that the right balances of inventory are struck between maximum and minimum costs.

Significance to Organization and Industry

The data from this management process is later used in estimating product demand, learning which products are ordered more only during particular seasons as well as assist in placing new inventory purchases. Monitoring aids in detecting any theft, damaging, or falling short of popular items. Eventually, the organisation saves these costs that can be incurred unnecessarily.

So far, the inventory system has helped PCAC to overcome the problem that they faced earlier to do with inventory management. No items are continually missed in stock anymore. Currently, they are more aware whenever an item is purchased for a particular job but again used for an entirely different job. It now can efficiently and effectively run the stocks in the store (ICITMS & XU 2013). The monitoring is well done so that emergency

and rushed purchases like overnight shipment are avoided. All these had resulted in the loss of time that financially hurt the organisation and the industry in general (IFIP et al. 2013). The company now has a good grasp of the inventory not only the inkling and leaving items.

Common challenges faced by most organisations are store issues processes not being followed. With PCAC, most engineers may fail to record their requisition of stocked products at the point of issue. It has been effectively curbed through culture and compliance change initiative, which can be driven by a combination of visibility and management support. Additionally, PCAC has set a target of stock accuracy percentage of 90% intending to increase it to 95%; the industry wide measure. It is important to raise the perpetual scope inventory checking procedures for eliminating any possible residual inaccuracies and hence accurately track improvement whenever they are achieved (Kappauf, Lauterbach, & Koch 2012).

Additionally, customer service related with logistics and inventory is improved for the business. The organisation enjoys an efficient way of managing their business since the customers are more satisfied. With sufficient stock availed, there are no delays in serving customers, and the relations have improved. The customer orders are also automated, which improves accuracy and time taken to meet the order. Eventually, the kind of service rendered to the client is highly efficient reflected by the ease to please the client with the required products in time. Without this efficiency, it may be difficult to satisfy the customer.

Both activities in supply-side and demand-side logistics are essential in managing inventory. The supply-side response must meet the demand-side pull (ICITMS & XU 2013). When the market demands more products, the supply of these products is expected to respond and meet this demand. With an operative inventory management system in place, these logistics are no longer a challenge. Tracking and monitoring the item will indicate when new items are to be ordered as well as the amount so that the stock will facilitate manufacturing of products that will meet the demand witnessed in the market (United States 2012).

Typically, logistics and logistics management observed in inventory management are very significant and relevant not only to the organisation but also to the industry as a whole. Uncertainties of stock levels and location are eliminated, hence making inventory checks quick, easy and informative.

Conclusion

With this age of technology advancements, much has been invented in facilitating inventory management and control. Automated inventory management system has been designed to automate all the processes of inventory management and control that has made the entire function more efficient, accurate and faster. The greatest challenge of inventory management and control always revolves around how much to order and when to order it. It has been simplified and made more effective with the inventory management systems and other related software.