

Inventory management system proposal

[Business](#), [Management](#)



The goal over the course of the next three months is to implement a new Inventory Process that will allow Riordan Manufacturing, Inc. to create and deliver electric fans in a more efficient and accurate manner. The implementation of Radio Frequency Identification (RFID), inventory-tracking system will stream line throughput, increase productivity, and reduce production costs. In the current outdated design process, many problem areas in the assembly line process can occur, such as bottlenecks, mistakes, and inaccurate counts.

The proposed system will address problem areas by introducing a just-in-time production strategy to improve return on investment. Tracking inventory in real-time as it moves through the supply chain process will ensure reduced overhead of raw material and made-to-stock product.

The use of RFID technology will record customer orders, shipping of product, and tracking throughput in real-time. With the proposed RFID systems and wireless software, labor costs reduction, and process efficiencies are the result. Area supervisors will have the opportunity to focus on tasks of greater importance.

With the new process, production levels will increase and labor costs will decrease, drastically reducing the process of redundant tracking of material and customer products. Implementing an RFID system will also help reduce manufacturing mistakes by closely tracking all parts required for product assembly. With measurable success and improvement rates, the use of the new Inventory System Process will help in Riordan's future growth. Thank

you for your consideration for this proposal. Please feel free to contact if there are any questions.

Successful companies manage inventory, labor, and other operational costs by closely tracking them. Failure to manage those items efficiently can cost businesses their bottom line with loss of profit, and ultimately, the risk going out of business. Inventory equates to cash and although it is not as liquid, there is still a cash value associated with each product in inventory (Chase, Jacobs, & Aquilano, 2006). Riordan Manufacturing is in desperate need of updating their inventory system.

Initially, when Riordan Manufacturing went into business, this process was efficient only because they were producing on a smaller scale. As a fortune 1000 company, trying to foster business growth, Riordan Manufacturing needs to incorporate innovative technologies for their inventory control processes.

The inventory process Riordan uses, require many redundant activities necessary for tracking, throughout their supply chain. MRP Material Resource Planning, also known as MRP, software positively can affect a business that relies on efficiencies in manufacturing.

“ MRP helps enterprises control and streamline processes synonymous with order fulfillment. MRP Software is designed to analyze production demands from current sales orders, short and long term sales forecasts, and then procures the exact information for what is needed to manufacture each order” (Business Software, 2010, p. 1).

MRP is a system that Learning Team D is proposing Riordan Manufacturing implements to improve productivity and efficiency. The MRP system will help to support the new inventory system of using Radio Frequency Identifiers, also known as RFID.

The RFID tracking system will automate the process of entering data related to inventory. The MRP system will use the RFID system to track the inventory through the process from raw materials received, to molded, assembled, and shipment of the delivered product. In addition, the MRP system will use data from the sales department to calculate how much time required for producing the customer's order. As part of the software, data is stored about delivery timelines for both how long it will take to receive raw materials and how long it will take to ship product to the customer.

In addition, the system will calculate the materials needed for product assembly, and the timeframes to complete that assembly. By completing these calculations within the MRP system, manufacturing process optimization, limiting inventory on-hand and maximizing the inventory turnover time. Process Design Creating a new process design will allow Riordan to become more efficient, reducing the inventory on hand. The process design will have a direct and immediate effect on the customer (Chase, Jacobs, & Aquilano, 2006).

One main metric that will identify the process is time because it calculates the work-in-process divided by the throughput rate. As a service provider of product, Riordan wants customers to have shorter wait times, and to reduce the organization's investment cost by turning inventory over as quickly as possible. Riordan will fine-tune the inventory process by performing task at a <https://assignbuster.com/inventory-management-system-proposal/>

parallel process. Most tasks can operate in sequence that will reduce the waiting time and improve production. Another change would be the order of the task in the inventory process.

This will eliminate the back and forth transportation from machines, locations, and departments. In addition, fewer interruptions in the process will prepare purchase orders faster to avoid adding extra days to keeping inventory longer than needed. In these changes, the assembly line will increase productivity and reduce inventory cost.

Applying the lean production process will achieve high volume production using minimal inventories of raw materials, work-in-process, and finished good (Chase, Jacobs, & Aquilano, 2006). The use of RFID will play a significant role for optimizing Riordan's inventory management system.

The process will work efficiently when demands are at a high quality and builds stronger relationship with the vendors to create the demand for the product. Generally, Riordan will have these tools along with implementing the MRP system to manage inventory flow process. This will create the process of identifying any bottlenecks through the inventory, packaging, labeling, and shipping process. In addition to the MRP system, Riordan will also include the RFID scanning system to improve the technology aspect of the business. Supply Chain

Riordan will benefit greatly by implementing an RFID scanning system. Converting the inventory system to implement newer technologies will increase process throughput. Transition to the RFID system will improve Riordan's opportunity to compete in the global market.

Tracking inventory on paper is not efficient, especially when information gathered needs updated in China by close of business each day. The use of RFID through the Internet, improves Riordan's opportunity for growth, keeping track of every item in inventory. With an RFID system, real-time trending and forecasting will be possible.

Computer software used in conjunction with hardware devices monitor the use of inventory more accurately by continually scanning and uploading data. With the use of RFID, Riordan will reduce loss of inventory or wasted product by setting control limits.

Ultimately, reducing labor costs and increasing profits. In most industries, labor is the one of their biggest expense. The inventory clerk positions could have a significant reduction of labor hours and even eliminate the position entirely with an electronic process. The amount of time spent tracking inventory goes from minutes to mere seconds because of RFID technology.

As Riordan continues to grow, it is important to established centralized warehouses in key locations. The inventory software will help Riordan executives forecast how much inventory one particular warehouse could handle, more effectively than the current method used. Inventory management is the key focus for process improvement.

This new inventory management system will reduce labor cost by streamlining data entry, therefore, speed transaction time, and ultimately, reduce the amount of inventory on-hand. Packaging, labeling, and shipping will involve incorporating a new inventory management process.

Combining handheld computers, RFID readers, software, and a wireless infrastructure gives supervisors the ability to monitor inventory and track each activity within the manufacturing process. By connecting a wireless infrastructure, the application will operate in real-time.

Supply chain design will enable Riordan to reduce stock on-hand and improve inventory throughput. Maintaining par levels through forecasting from the materials used, average inventory stock is projected. Demand and supply uncertainties associated with custom products will require a supply chain strategy that incorporates an agile supply chain.

Supply chains using strategies aimed at responsiveness, and flexible, overcome the risks of supply shortages by pooling inventory and other capacity resources. As previously mentioned, the current steps for processing raw materials is labor intensive and in many ways, work against the company's long-range strategy.

The use of an RFID tracking system will allow more accurate and real-time information to be readily available. Forecast Forecasting the costs and expected benefits is critical to determining if the project is worthy of investment by a company. This forecast, completed for the implementation of both an RFID and MRP system.

There are a number of salary costs for this type of project, including a project manager salary for one month (\$3, 333), an install technician for two months (\$6, 600). A trainer for 20 days (\$1, 640), salaries for 10 technical support agents to be trained over 10 days (\$11, 000), and salaries for 100 staff agents trained over 10 days.

However, the largest cost for this project will be the technology itself. To install an RFID system the following will need purchasing; active tags at the price of \$10 each for 100 in total, five \$500 readers, and the middleware that costs \$100, 000. The MRP software will bring the biggest price of \$300, 000. The total costs of implementing the project will be \$536, 139. Obviously, these costs are only beneficial to the company if they bring about a positive change to the company's income. The implementation of the MRP and RFID system allow the elimination of the inventory clerk position, saving the company \$45, 000 annually.

In addition, supervisors will be more effective as the labor intensive reports are eliminated, saving the supervisors 40 hours a month and the company \$959 a month. The manufacturing team will also benefit from the elimination of these labor-intensive reports. It's estimated that the manufacturing team will save \$574 a month. In addition, because of the expected efficiencies with managing inventory Learning Team D predicts that one facility, currently used to house supplies, is no longer needed saving the company \$8, 000 monthly, in leases.

According to a survey of more than 600 companies, Riordan can expect a number of increased efficiencies. Perhaps the most telling increase to performance is that delivery times will be reduced from 71 days to 59 days on average (Schroeder, Anderson, Tupy, &White, 2012, p. 1). This means that Riordan will be able to improve order processing by 17%.

With profits already at \$1, 956, 371 (Apollo Group Inc.) annually, a 17% increase would result in an additional \$163, 031 monthly in profits. Keeping

all of this information in mind Riordan would see a return on their investment in approximately 13 months.

Conclusion

The new tracking system will help in supporting the principles in strategic capacity planning by allowing Riordan to decrease the waste of resources, such as ordering too many raw materials, using facilities as storage, and using labor hours for data entry. Improving Riordan's inventory control process will produce a more efficient supply chain management, translating into increased customer satisfaction.

Both strategic capacity planning and lean production play an integral part in the improved inventory system at Riordan. The strengths for Riordan's new process will increase productivity, and enhance the products life cycle. Building a better strategy will open the door for further growth opportunities.

It will take a team to develop the strengths and opportunities of the new inventory management process. Measures of changing the supply chain design by adding the new RFID to Riordan's inventory system will become the reason for Riordan becoming the leader in the electric fan industry.

(Note: see appendix A for Gant chart)