

# Stickley furniture case study essay sample



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An analysis of Stickley Furniture's production, aggregate planning production control, inventory and quality reveals that the company has made changes that have proven successful strategies for the long term success of the company since it was sold in 1974. The analysis presented here will show areas of strength and areas of improvement. L. & J. G. Stickley Furniture has a production facility that is rectangular in design with 30 foot ceilings and this building is staged to facilitate several different production processes from continuous production their primary production process, job shop for custom furniture, batch processing and repetitive to produce a large number of furniture products made from Mahogany, Cherry and White Oak in the Mission Oak Style. Stickley primarily uses the continuous production process along each point in the production of Mission Oak Furniture. First stacks of raw lumber are received from the lumber mills and parced out by material handlers. The bulk wood is cut into smaller sizes in batch processing. Then the raw lumber is inspected to check for knots and other defects. The inspectors of the raw lumber look for imperfections such as knots and other defects, on the cut wood and mark the locations to prepare it for cutting by the Optimizer Saw.

After the lumber inspection process is completed the raw wood is fed into the Optimizer saw that has the unique feature of an onboard computer that calculates the optimal cut pattern for each piece of wood to fulfill the needs for the jobs that are in the queue. Using the optimizer saw reduces waste by optimally cutting the wood away from the defects like knots and allowing for the scrap to be reused. The lumber scrap pieces that are cut out by the optimizer saw are glue together to form workable wood. Those wood pieces,

that have been glued together, are placed in a wood press compressing the wood into a common solid and super strong board for use in parts creation. These pieces are then mortised or drilled to fit the different needs of the particular furniture production runs by a computer controlled router. These pieces can be used to fulfill the need of different furniture production runs such as table, desk and dressers tops and other various parts for production. After this is done the next step is a series sanding operations that smoothes the boards by removing excess glue from the compressed wood board making it look seamless and smoothing the solid wood parts.

This continuous process proceeds on a regular daily basis, processing twenty thousand feet of board each day. The cut furniture parts are assembled into the various sub-assemblies for the furniture or assembled into complete pieces like dresser drawers and cabinet doors. For each piece that is made in a production run all the information about it is meticulously recorded and the parts are stamped to identify the parts purpose, date of production, finish type, furniture line it is intended for and color. This data can be used for raw material ordering for the future and for furniture that is sent back for repair so that repair people can closely match the original production run.

Unfinished furniture and parts are placed in white inventory for future production needs and can be finished to fulfill orders quickly. The other production processing methods that Stickley Furniture uses include job shop processing where highly skilled craftsman make custom furniture in the custom shop. Batch processing is used for production runs of common parts.

Repetitive processing is used for parts that are for large productions runs used in production of legs, spindles and chair backs for their main product

offering the Mission Oak Style Furniture. The type of production processing runs that Stickley Furniture chooses depends on the furniture that is being made and how customized it will be made for the customer. Having several production processing methods is a characteristic of the furniture industry and is necessary because of the cyclical nature of the furniture industry which exhibit seasonal demand in the first and third quarters each year (Stevenson, 2011). The company that I work with provides a product that follows a similar type of production process as Stickley. We provide custom built hardware enclosures with specific equipment sets to fulfill the hospitals work flow needs. This process can be difficult and he cyclical in nature as well. As difficult as this is we are known around the country for quality, dependability and great customer service. This sets us apart from the competition and is a great advantage. Stickley uses a bar coding system to keep track of each job that is on the production floor that identifies the job, the stage of production that it is in and where that job is in the operation.

As the job passes through each stage of job production the operator at that particular stage in production removes the bar code sticker and takes it to the scheduling office where the scheduling staff scan the bar code into the tracking software. This information is then sent to production control so that they can track the progress and location of the job on the shop floor. Bar coding is helpful since there are many jobs that are going on concurrently and it would be very difficult to track the individual jobs otherwise. Couple that with the fact that customer orders peak in the first and third quarters allows production and management to prepare the white inventory for the seasonal demand that Stickley experiences and allows for the smooth flow of

production runs that are needed to fulfill current orders using. The bar codes can indicate where there is slack in the system and fill that with white inventory needs for the next cyclical increase (Stevenson, 2011). Bar coding will also help with data collection on vendors who supply the raw materials in furniture production.

Providing information on wood suppliers, finish suppliers, fasteners suppliers quality and timeliness, equipment down time, bottlenecks in production and other data that can be used to make Stickley a lean manufacturing furniture company and much more competitive in the furniture market (Harmon, 1986). The company that I work with provides bar code systems to hospitals that track cancer patients through their treatments that for some can occur multiple times a month or week. The bar code system alert the patient caregivers that the patient is ready for the next step in their treatment. Knowing this the staff is more efficient, provides better care and service to the cancer patient with better outcomes. Bar coding have many applications that can be very beneficial across many industries. Materials Requirement Planning is optimal for Stickley Furniture because the computer program allows management to prepare for orders that come in to production. For example, when an order for 40 Mission Oak Dining Room Sets comes in from a client. To fulfill the order Stickley will create a master production schedule defining items to be produced, when it is needed and the quantity needed.

The particular schedule for this production run Stickley needs 40 Mission Oak Dining Room Sets to be delivered in the next 8 to 10 weeks. Next Stickley will need to put together a Bill of Materials that lists all the raw materials, parts, assemblies and sub-assemblies needed to produce one Mission Oak

Dining Room Set providing one Bill of Materials per dining room set. It is essential that the Bill of Materials reflect the exact components of the Mission Oak Dining Room Set since one error can be magnified 40 times over and cause delays in delivery and quality. Materials Requirement Planning shows the time lines that the parts and assemblies need to be finished to meet the deadline for the customer (Stevenson, 2011). Materials Requirement Planning is best suited to companies with erratic product demand, much like that experienced by Stickley Furniture and the furniture industry in general or those with complications in terms of the number of components or subassemblies as is seen in the furniture industry (Anonymous, 1985). Materials Requirement Planning plays a large role in the success of Stickley in real time and for future planning.

My company uses Materials Requirement Planning because of erratic demand and to set the time lines for parts (Electronic Components) and assemblies (Hardware Structures) to meet customer's time lines. It can be cumbersome at times but it is the best solution for our situation. Stickley uses a level production policy to level the production over the year to meet demands throughout the year. Level production is done despite the cyclical nature of their business. When demand is up during the first and third quarters Stickley uses the over capacity from the previous quarter to provide the resources to complete the orders. There are a few benefits with this policy. First the skilled workers most likely will be retained by Stickley that produce the custom furniture because they will have the comfort of job security and the feeling that the Stickley is loyal to their employees (Wille, 1994). This is very important because custom work is more profitable

because of the margins that are realized. For example the company that I work with makes a 40% margin on custom projects and we use skilled workers. Retaining the skilled workers is vital to the success of the custom work business line at Stickley.

Another advantage of level production is that during peak demand workers are not rushed through their work which could cause them to make sub-standard furniture. Also, the employees own monitoring of quality makes a difference for the Stickley name in the furniture market. And in the instance of more difficult operations an additional level of quality control is added with quality control inspectors to help identify operators that have deficiencies further ensuring quality. Level production can lend itself to less equipment down time because the maintenance schedule will be easier to provide service to the saws, routers and sanders regularly. There are many advantages to level production for Stickley. There are some disadvantages to level production that must be mentioned follow. There are costs that are associated with the production facility being open year round. The low skill workers may become a burden because of the costs associated with their salaries. The utility costs of keeping the facility can be lowered significantly by limiting production during the slack quarters. For example the electric cost is sixty thousand dollars a month. If the facility were to run half days during the off quarters they could potentially save one hundred eighty thousand dollars over a six month period. There are also disposal costs that are associated with production, the disposal of hazardous waste and non-recyclable wood products during the slack months. Overall the level production policy is more beneficial to Stickley because the employees will

get a sense of loyalty to Stickley and pride in the quality and workmanship in the furniture. There is no value that can be attached to these qualities since it shows up in every piece of furniture.

Areas of improvement that is relevant for the future growth of Stickley can be realized by employing several different Strategies. One is the use of Total Quality Management that gets everyone that is involved in the production of furniture and the associated services. Total Quality Management involves management, workforce, suppliers and the end consumer of Stickley furniture. The goal is to exceed the end consumers' expectations for each piece of furniture. One of the main features to Total Quality Management is that the entire organization is committed to a continual effort to improve quality as well as the suppliers. It also encourages Stickley to find out what the consumer wants, design products to the customers' expectations, create process designed to do things right the first time, keep track of the results to guide improvement and a commitment to never stop improving and communicate Total Quality Management to the supply chain vendors and encourage their adoption of it.

This commitment to Total Quality Management can separate Stickley from the rest of the pack in the furniture market. An excellent example of a company that uses Total Quality Management is Honda Manufacturing. Honda employs an environment where Honda encourages plant innovation, use of cutting edge technology and an atmosphere where employees contribute to continuous improvement of the Honda brand (Coleman, 2002). Stickley, by employing Total Quality Management can achieve the same level of recognition as Honda for quality and service. This analysis of Stickley <https://assignbuster.com/stickley-furniture-case-study-essay-sample/>



Furniture's production, aggregate planning production control, inventory and quality revealed that Stickley changes have proven successful strategies for the company since it was sold in 1974. The analysis presented also showed that there are areas for continuous improvement. Total Quality Management is an encompassing strategy that will take Stickley to new growth levels because of its never ending dedication to quality in all aspects of the company and demanding that from their supply chain.

## References

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