

# Example of customer-based production case study

[Business](#), [Company](#)



## **Implement lean elements on project management**

Operation management is a comprehensive process of coordinating all activities in a project in order to achieve the set goal within the stipulated framework. Every operation manager designs a network schedule of the sequence of all activities, their succeeding process, slack time and the maximum time which the whole project should consume from the initial to the final stage. The goal of managing a project is to ensure that the process is time-framed, cost-effective and maximum utilization of resources. A lean operation is a production strategy that strives to improve the project schedule, carriage costs and improve the value addition of the customers. The idea of lean management was coined by the Toyota Company that focused on revising its waste accumulation in the production process with intent to strategize itself as the greatest automotive company in Japan and across the globe.

The Lean management system concentrates on preventing waste such as labor raw materials and the extra time that is often under-utilized or utilized at the expense of the company's production efficiency. The objective is to endorse an effective company culture where products are delivered when required, at the right quantity and the required quality. Initially, the normal project management concentrates on timely completion of the project, budget constraints and utilizing the techniques to meet the projected performance. On the other hand, lean management system is more focused on eliminating wastes, reducing the lead time, downsizing the cost of implementation and enhancing the quality of finished products.

## **Overview of the Toyota's traditional project management system**

In the past, projects managers would only focus on producing the required quantity of products to the right customers. Unfortunately, they never concentrated on the cost of production and how to adjust the time-frame for production in a bid to utilize the minimum cost and time resources. Toyota Company experienced this issue in the year 1934 when the founder, Kiichiro Toyoda decided to move from textile to car manufacturing (Stoterau, pg8). The economy was worse due to the effects of World War II and thus level of demand for cars was low. In the traditional system, cost of production, quality of production, time schedule and efficiency of machines was not recognized. Taiicho Ohno realized that there was need to overhaul the production system with a focus to emphasize on quality production and customer satisfaction. In the process, Toyota developed TPS (Toyota Production System) was developed with the objective “ Just in Time” technique.

## **Implementation of Lean management in the Toyota manufacturing process**

The four key elements that were utilized by Toyota in its lean production management include Waste management, customer-based production, and synchronization of production stages and involvement of the working system.

The Toyota Company only concentrated on meeting the customers' demands without over production. However, they did not focus on the customer's responsiveness to the final -product. Through lean implementation, the

management focused on respect and team work for customers and all stakeholders. Customer's sentiments, suggestions and compliments serve as the basis for the company's production technique to deliver market-accepted products. The Toyota Company never concentrated on product schedules as a strategy to observe the rate at which products go through the production process and its impact on the rate of demand of products. Computerized product scheduling was the key concept for Toyota production system as it aligned itself with close monitoring and evaluation of customer's demand schedule in order to maintain low inventory and save on holding costs.

Toyota Company embarked on implementing principle 9 that emphasized on the company's project leader's initiative to set on the ground and understand the market situation. A balanced system is, therefore, appropriate where the supply of final products is synchronized with the level of demand in order to avoid exaggerated holding costs that often lead to below the target profitability level (Stoterau, pg. 9).

## **Synchronization of production stages**

Toyota Company had many suppliers and multiple warehouses and thus led to incurring high holding costs and transfer costs from one warehouse to another. The management adopted a lean Just-In-Time operation that embarked on synchronizing all the production stages from the supplier to the consumer using four strong building blocks. The first building block is product design that enables the project leader to assess the quantity and quality of raw materials from reputable suppliers in order to satisfy consumer's taste. The action reduces wastage of products and materials. The next building block is process design. Process design involves adopting

manufacturing cells or stages that focus on reduced time –schedule, allocation of different specialist to specific production stages to enhance product flexibility and embark on quality production of final products. The Just-In-Time system was appropriate for Toyota Company since it facilitated synchronization of product scheduling with the level of demand. Machines would be divided on the basis of product demand. Those machines that produce products that are not demanded remain inactive until demand resuscitates and thus saves on operation cost. Additionally, the system emphasized on employing workers with multiple skills through cross-training program in order to adjust them based on the level of work in different production stages (Stoterau, pg. 4). The system is appropriate because it reduces inventory holding time, saves cost and minimizes the storage risk of products.

### **Involvement of the working system**

In the initial production process by Toyota, every production stage would be viewed to be independent and, therefore, assessed independently. As a result, it was hard to detect the defects in the production process leading to the high cost of production, overproduction, idle costs and high holding cost. The company adopted the lean management system that embarked on the Toyota Company's project leader's role to oversee the coordinated implementation of the production. The process would be effective through four processes: initial, planning, execution and implementation processes. The initial process involves the brainstorming of the senior executives to deliberate on the project's lean vision and goals. Next, the management should select one person who will spearhead the implementation process

and accompanying team of about seven members. The Planning process should be guided by two principles: Continuous improvement of the lean system and respect and value for all stakeholders. The continuous principle emphasizes that the challenge of having a long-term vision in any project should be the goal of the project implementation team. Further, planning entails getting to the bottom of all involved production stages in order to assemble all the necessary facts about the project. On the other hand, the project leader should emphasize on respect and value for the people by enhancing teamwork among the employees and regard for the consumer sentiments and opinions. The implementation process entails a provisional pilot project of the project system to all factory units as a tentative measure to detect defects and areas of improvement before the final roll out of the project (Stoterau, pg. 10). The project leader should be open to learning from others and making decisions through building of consensus along the chain of production stages with the factory units heads.

## **Waste Management**

This is the key and final element of a project Just-In -Time lean management system. The Toyota Production System (TPS) had embarked on a waste management system that entailed elimination of the following wastes (“muda”): overproduction, idle production time, holding inventory costs, transfer of products to multiple warehouses, wastage on multiple suppliers and waste of making substandard products (Stoterau, pg. 8). The Toyota company has been embarking on a lean system that eliminates these wastes were not detected in the traditional project management system. Due to a well-coordinated and customer-value oriented system, The Toyota company

recently recalled 2.27 million vehicles, as a result, of a defective airbag system that was prone to cause fire. The event is a manifestation of the effectiveness of lean management system that embarks on value-addition and customer satisfaction. The lean management philosophy insists that the customer satisfaction should form the backbone of the project management in any production activity.

## **How to implement a lean management system on a project**

The major objective of a lean management system is to facilitate the delivery of a quality product or service to the final consumer at price equal to the value of the products or services. It is worth noting that not all lean management system can fit to any project and therefore it's imperative for project managers to design a management system that fits the requirements of the specific project. The implementation process would be effective through the following stages:

### **Initiating process**

The initial process is for the senior project managers to assemble brainstorm and dissect into the nature of the project to be undertaken. If the project is new, the managers should first define the nature of the project, that is, the services it intends to delivery. On the other hand, if it is a continuing project, all preceding results of the projected should be outlined for deliberation before adjusting them to a lean system. Thereafter, the executive management shall select an exclusive project leader with accompaniment of a proficient team to lead in the implementation of the project. The management should base its decision on principle 1 that emphasizes on

long-term philosophy other than short-term and costly objectives. This process aims at outlining strategic goals that are aligned with the project's vision of equitable and quality service delivery. Implementation of this intermediate process is a cost-effective strategy. The project leader should implement principle 4 on leveling the workload through appointment of a formidable team of proficient career persons under the guidance of a stakeholder map. Finally, the project team shall abide by a project charter with the project sponsors detailing the terms, conditions and implementation schedule of the service project (Stoterau, pg. 10).

## **Planning process**

The other step is the planning process where the team outlines both the organizational and the project structure of the lean process. The project structure shall entail defining the project to be implemented by collecting all the necessary quantitative and qualitative data required to facilitate the supply chain project. It shall entail raw materials, cost and the projected time. A time schedule shall be appropriate in order to indicate the deliverables and facilitate a kick-off event. The team shall design a network diagram that outlines all the steps that a project will go through before its ready for use (Stoterau, pg. 12). The hierarchy of organizational structure shall involve allocation of proficient managers to different stages of supply chain whose results shall be synchronized through collective involvement to ensure the final product has value-addition to the customer. The project management office should uphold consensus among all stakeholders by considering all viable options, its loopholes in order to implement a feasible solution in the service delivery project.



## **Execution process**

This process shall involve continuous observation of the stages of the project to enhance efficiency. The project manager shall pay attention to principle 6 that informs about the standardization of different tasks along the supply chain in order to enhance continuous improvement of the work force. In particular, the management may decide to source raw materials from a single supplier in a bid to reduce the Earliest Start Time(EST) of a project. Moreover, use of multiple stages in the supply chain system could increase the slack time between different project stages to reduce idle time and cost. The project team shall converge on a periodic basis to assess the impact of the lean system and make the necessary adjustments to ensure that the project's projected completion time shall be attained within the estimated budget. The whole process should focus in waste reduction with intent to increase quality of services and profitability. Roles and responsibilities of all team members should be defined to avoid an overlap of duties and uphold transparency and accountability (Stoterau, pg. 16). Periodic meetings will accelerate decision making, detect and devise risk management strategies and create a slack time for project adjustments.

## **Monitoring and controlling process**

The project team should focus on the network schedule getting on the ground to assess the whole succession of different stages of supply chain. A third informative party will be influential in supplementing the project team's think tank. Visual controls such as a computerized supply-chain management system will enhance effective monitoring of the project schedule to ensure that it is completed within the projected time and cost (Stoterau, pg. 17).

For instance, A network schedule software has been developed that facilitates prompt adjustments of project scheduling, implementation cost, slack time and different supply project activities in order to capitalize on idle time and save on cost.

## **Closing process**

Under this process, the project team reflects on the performance of all the four coordinated lean management elements. The project management team should adhere to principle<sup>14</sup> that urges the manager to uphold the learning from mistakes concept. Best practices learned are endorsed as defective approaches are sidelined in favor of more complex strategies. (Stoterau, pg. 18).

## **Conclusion**

Implementation of the above elements of lean management system will lead to increased productivity, less holding inventory, reduced cycle time, efficiency in capital equipment utilization and increased profitability.

## **Work cited**

Stoterau, J. (2012). Lean project management. SQS Software quality Systems AG.