

Lean production and lean service in kelloggs



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\n[[toc title="Table of Contents"](#)]\n

\n \t

1. [Executive Summary](#) \n \t
2. [5. SIX SIGMA](#) \n \t
3. [6. Supply chain Management](#) \n \t
4. [7. Porter value chain](#) \n

\n[/toc]\n \n

Executive Summary

Lean system was introduced by Japanese Company Toyota in 1960. Now most of the company implements this lean system for reducing the waste and to increase the value chain. These studies provide a brief idea how we can implement the lean system. The Kellogg's is a cornflakes manufacturing company which was founded by Will Keith Kellogg and Dr John Kellogg in Michigan USA at 1870s. It was introduced in market in 1906 as Kellogg's Corn flakes which was liked by many customers. Today Kellogg's is manufactured in 18 countries which sells its products in more than 180 countries. So using the lean system company has reduced its waste and increase the productivity.

1. Critically evaluate the use of lean production and/ or lean service in your chosen organization.

1. Lean productions are operation systems which maximize the value of company activities by removing waste. It focuses on inventory management, removing waste, improved productivity, quality management, supply chain design and constraint management. Lean system can be used by service and <https://assignbuster.com/lean-production-and-lean-service-in-kelloggs/>

manufacturing companies. By using lean system organization can develop higher quality of goods and services at lower operation cost. The best example of lean system can be found in Japanese automobile company called Toyota. Toyota uses the lean system to make Toyota Production System (TPS) work effectively which helps to reduce the waste and manage the inventory. The different elements of lean system are Just in Time (JIT), six sigma, and Total quality management (TQM), human resource management and total preventive maintenance (TPM). The just-in-time helps to reduce the inventory cost by ordering the goods when needed. (Krajewski, Ritzman & Malhotra) pp: 316-318.

Kellogg's was founded by Will Keith Kellogg and Dr John Kellogg in Michigan USA at 1870s. It was introduced in market in 1906 as Kellogg's Corn flakes which was liked by many customers. Today Kellogg's is manufactured in 18 countries which sells its products in more than 180 countries. It is the first American company to introduce cereal as a breakfast and highly maintain the nutrition and quality of food manufactured. (Kellogg's, 2011).

It focuses on manufacturing of cereals and snacks, and frozen food as well. The company strategy is to expand the sales of cereals and snacks all around the world and grows the frozen item in North America.

It also produces convenience foods such as cookies, toaster pastries, cereal bars, crackers and vegetarian food as well. Kellogg's brands are Keebler, Special K, Eggo, All Bran, Bear Naked, Chocó's, Club, Rice Krispies and Kashi.

2. Discuss and recommend how waste can be managed along your chosen organization's value chain

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2. Lean system can be implemented in Kellogg's company to reduce the waste and reduce the inventory cost. It helps to improve the quality and productive of company. This process is known as a kaizen which is a Japanese term. The eight types of waste in lean system are overproduction, inappropriate processing, waiting, transportation, motion, inventory, defects and underutilization of employees.

So we can use lean system in Kellogg's company to reduce these wastes.

Overproduction:

Overproduction of goods can create loss to business. The produced goods need to be stock for long time which can increase the cost of holding (inventory), and it is difficult to detect the defect in large quantity. Lean system recommends that company should have close relationship with their supplier so that delivery of raw materials can be on right scheduled date, short lead time and delivery appears with good quality. So, Kellogg's should also implement JIT (just in time) approach to reduce the inventory cost.

Inappropriate processing:

Inappropriate processing means use of expensive manufacturing machines instead of simpler machine which can increase the cost of operation. So use of smaller equipment, removal of older machines can reduce the waste and decrease the cost of operation. Lean system utilizes the use of pull method of work flow. Pull method means when there is demand then there is processing for that demand. There is push method also in which production is done in advance of demand. Push method is suitable for manufacturing

firms since process involve long lead time, customer cannot wait for long time and product requires common processes. So, Kellogg's can also use push method for processing. Since the demand is high in context of Kellogg's Corn Flakes so company need to supply the good in advance to demand.

Waiting:

Waiting means when the product is not processed on time. The waiting occurs when there is temporary imbalance between demand of service and capacity of company to provide its service. It also occurs when there is poor material flow; long production run and machine are not assembled in right procedure. Lean system recommends the use of small lot sizes. Small lot size passes the system quickly and they do not keep the materials waiting.

Waiting problem may also occur in Kellogg's company. So to avoid these problem Kellogg's can use small lot size that are processed together but it also need to be set up in effective way. More advanced technologies must be used to processed cereals into corn flakes.

2. 4Transportation:

It is the excessive movement of raw materials and produced goods from supplier to manufacturer and manufacture to customer. Some food requires the temperature to be maintained during transportation. So these can increase the cost of transportation and decrease the quality of food when it reaches to customer. Kellogg's uses TDG as a logistic experts company. But before 2008 there was another logistic supplier which they dispensed due to rise in the cost of productivity. Lean system has helped both TDG and Kellogg's practices to cut down the cost by 6%. In UK the Kellogg's has <https://assignbuster.com/lean-production-and-lean-service-in-kelloggs/>

manufacturing plant in Wrexham with a warehouse in it and a further warehouse at Trafford Park. TDG reduced the cost by storing the entire product in the warehouse and transport the required product to other outlet as required.

Motion:

It is an unnecessary movement of body like bending, lifting, stretching, reaching and walking during the work. Jobs with unnecessary movement of these body parts should be redesigned to reduce the waste. There should be use of one worker, multiple machine cell workstations (OWMM). It avoids the use of many workers in one production line which will reduce the waste and unnecessary motion of many workers. In OWMM a single worker operates many identical machines to get a better line flow of work. So Kellogg can also use these OWMM workstation cell approved by lean system to cut down the inventory and use of many workers to perform one similar task.

Inventory:

It is a waste that occurs when the product are stored for long time in warehouse. It is a result of overproduction and when waiting line increases. When there are more stocks in warehouse it is difficult for manufacturer to detect the defect and maintain the quality of product. In case Kellogg's which is manufacturer of cornflakes large inventory means poor quality of food and it is hard to maintain the expire date of food as well. Kellogg's use Economic Order Quantity (EOQ) model to order the quantity of materials required. In EOQ the lead time must be constant and demand rate is assumed as constant. It helps to find the fixed order size which will reduce the holding

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and ordering cost of inventory. So by calculating the cost right amount of stock is ordered from supplier which will reduce the waste of clearing the stock. (Stevenson, 2008), pp: 485-491.

Defects:

Defects are also one of the eighth wastes in lean system. Increased defect can increase the cost, inspection, and company may lose their brand image. When there is overproduction of goods company have to stock for longer period. So, when the defect is found then it is more costly to check for defect in large quantity. By the use Just in time System, Company can reduce the large inventory and it's easy to check the defect in small stock. Kellogg's should also implement Just in Time system to maintain the inventory stock and order from supplier when needed.

Underutilization of Employees:

It helps to reduce the waste by providing the proper training to their employees and effective use of employee knowledge in job. Company should implement flexible workforce where workers are trained to perform more than one task. So employee can fulfill the gap of other job when they are in vacation or sick. This flexible work force also helps employee to feel boredom of doing same job for long period and refreshes them. Kellogg's can also implement lean system which provide cross training for employee so that can perform any task in different work station.

3. In addition to above eight waste, lean systems also suggest FIVE S Practices for reducing waste and removal of unnecessary task and activities.

It helps to organize the work force environment. According to Krajewski, Ritzman and Malhotra (pp: 323-325) there are five S Practices are sort, straighten, shine, standardize and sustain. They are as below:

3. 1 Sort:

Sorting means separation of needed items from unneeded items. When sorting is done it helps to use the item for another process in effective way. So it saves time and increase the efficiency of process. In Kellogg's company it uses Maize (corn), sugar, wheat, wheat bran, and fruits and nuts. Farmer needs to separate the good quality of wheat, maize in their farm.

3. 2 Straighten:

Straighten means every work station and raw materials should be in right place. It's easy to find the required things easily. Kellogg's can use straighten to save time and keep workstation in right place. Every raw materials and produced goods should be kept in right stock room and place so it's easy to find the required item when needed.

3. 3 Shine:

Shine means to make workstation clean and tidy. By keeping the workplace clean it also helps to reduce cross contamination of chemicals and increase the employee interest in work.

3. 4 Standardize:

Standardize means making certain rules in company to keep the workstation tidy and sorting the right stuff at right place.

3. 5 Sustain:

Sustain means that everyone follows the above four S practice and implement these practices while they are in work. So Kellogg's should also implement the 5 S Practices to reduce the waste, safe environment for workers and helps in effective use of lean system.

3. Evaluate the impact that your recommendation will have in your organization's resource and justify how your recommendation will ensure increased competitiveness, long-term sustainability and corporate social responsibility

4. Lean system also implements the use of total quality management (TQM). It focuses on increase process performance and quality. By maintaining the TQM company can get better customer satisfaction, employee involvement and continuous improvement in performance.

Customer satisfaction depends on various expectations like value, support and psychological impression. Customers define the quality of good through its value and how much they are willing to pay. So to maintain the brand of Company should focus on customer value. They should segment the market and know the behavior of customer. Company should implement the quick response in case some defect of their goods, they should not delayed its warranty claim and misguide the customer. Company should support their customer in quality and service. Kellogg's should also respect their customer value; they should not misguide the customer. Kellogg use nutrient fact in the outer cover of their product so that customer can know their nutrient diet in their food. They also use expiry date, ingredient of food and

manufacturing code so that if customers are not happy with their purchase product they can complain the company.

Employee involvement is another element of TQM. The company can only gain maximum output when their employee are effectively involved in the process. When the internal employees produce good product then only external customers are willing to pay for good. So company should provide training to use the employee in effective way.

Continuous Improvement is process of continuous improvement in process of doing business. It is based on KAIZEN which is a Japanese concept. In Kaizen improvement occurs in small phase and it is implemented only if results are found to be effective so it avoid large drastic change which is more costly. In this process employee are given authority so they seek to increase their performance by themselves. Employee will form a team and solve the problem which helps to effective output.

5. SIX SIGMA

It is based on total quality management principles. It helps the business to sustain for longer period by reducing the product defect and process variability. Six sigma briefly understands the customer needs, use the factual data for business operation and reengineered the business operation as needed. It focus on reducing in process variation and target on centering process to meet the customer need. The six sigma model consist of define, measure, analyze, improve and control method.

Define

Measure

Analyze

Improve

Control

Fig: Six Sigma Model

5. 1 Define:

It defines the process outputs that fulfill the demand of customer satisfaction and identify the gap between processes. It uses the flow chart or process chart to get the right direction of process.

5. 2 Measure:

It helps to collect the data and identify the data resources.

5. 3 Analyze:

It uses all the data resources to perform process analysis. It uses various charts such as Pareto chart, scatter diagram and cause and effect diagram for implementation. It helps to analyze in which phase of business improvement is necessary and redesign of business is needed.

5. 4 Improve:

In these phase of Six Sigma implementation is done.

5. 5 Control:

It monitors the process so that high level of performance is maintained. It control that change are done in right procedure and they follow the right way.

So Kellogg can also use Six Sigma to identify the defect and remove it. Kellogg's can minimize the variability of manufacturing process. It can identify the appropriate business process for producing the corn flakes in an effective way. Kellogg's can use this Six Sigma for all manufacturing processes.

6. Supply chain Management

Consumers

Wholesaler/retailers

Transport

Manufacturers/producers

Transport /warehousing

Fig: supply chain of Kellogg's

Supply chain includes the activities involved in producing and delivering a goods and services. The main objective of supply chain is to satisfy the customer and also responding the change that occurs in business. Supply chain get triggered when the customer demand for the product. Company needs to understand the storing and transporting the product effectively. Kellogg's uses the lean system to reduce the waste that occurs in supply chain. There should not be more stocks in the ware house which increase the

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cost and also increases the cost of transportation. While producing the food the Kellogg's use the raw materials like maize, corn, rice, sugar from other supplier. The supplier should supply the raw materials on time so that manufacturing can be done on time. It helps to reduce the lead time and customer can get their product on time. Kellogg's has worldwide brand name so all the activities done by manufacturing plant should not impact the environment. Kellogg's is member of FDF. FDF means the food and drink federation which monitor the use of energy during production, how they use landfill for waste, emission of Carbon dioxide while manufacturing process and usage of water in manufacturing process. So Kellogg's helps to cut the emission of carbon dioxide which has a bad impact on environment. Today many organizations help the environment to keep green by lowering the emission of carbon dioxide. The supply chain helps to provide product or service to customer. In Kellogg's company its main aim is to provide the customer with good quality of food. So, it helps to increase the customer satisfaction which increases the sales of product. So by the use of lean system the supply chain will be more effective and helps to increase the value chain.

4. using porter's value chain as a template create a framework, that will assist a newly employed first line manager in your organization with the following

- A. Identify the type of waste in both primary and support processes
- B. The danger signals of each waste
- C. How to respond to the 'danger signals'

7. Porter value chain

It is a process view of organization. It is concerned with managing process. In a transformational process model there is input, processing process and output of goods and services which satisfy the customer. The transformation process is responsible for processing the input resources like material, money, labor, equipment and building. This is known as value chain generating a profit margin. (Porter, 1985), pp: 11-15.

Fig: Porter value chain

7. 1 The primary of Porter value chain inbound logistics, operations, outbound logistics, marketing sales and service.

7. 1. 1 Inbound logistics

Inbound logistics means how the company makes relationship with supplier. The supplier helps to bring raw materials for company which can be used for processing. The Kellogg's uses TDG Company which helps to supply their required raw materials. The danger signal can be long lead time and supply of less quantity of raw material. The Kellogg's should have close relationship with its supplier. So there will right amount of delivery of goods and which will reduce the waste by maintaining the inventory.

7. 1. 2 Operations

It is a process of transforming input into output. In Kellogg's it uses various materials as input to produce the good quality of food. For example, it uses maize to produce the corn flake. The waste can be overproduction and waiting lines. If Kellogg's produce more corn flakes than its capacity, it can
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increase the cost of inventory. So the company should use the right amount of input to fulfill the demand and respond to its danger signal.

7. 1. 3 Outbound logistics

It is responsible for delivering the produced product or services to customer or wholesaler and retailer. Transportation plays a vital role for delivering the output. So, effective means of transportation should be used to reduce the waste. The danger signals can be retailer or customers have to wait for long time and can increase the cost of goods. Instead of supplying the cornflake from one single location, Kellogg's can have many warehouses from where it can supply the cornflakes. These methods can help to reduce the cost. In Kellogg's it can result the loss of business. So the company may lose their brand image.

7. 1. 4 Marketing and sales

In order to increase the brand image and sales organization must do marketing to increase the customer. Marketing can be done in various methods like advertising in print media or on TV, by giving discount on various seasons and reducing the price of goods. Marketing helps to increase the sales so company can generate more revenue. The waste can be increase in advertising cost. So Kellogg's should use effective method of advertising and they should not misguide the customer. Kellogg's can also put different informative information on their packaging like nutrient fact, cartoon pictures for kids etc.

7. 1. 5 Services

It is the activity done after the sales of product. For example it can be after sales service, warranty and guarantee. Many companies have lost their sales because they fail to provide service after the product reaches to customer. So it can be one of danger signal. Company must ensure that customer get good service even after the product is purchase by them. If a customer asks for warranty of his purchased product he must be provided the warranty so it helps to increase the brand image of company. Kellogg's should also provide the service after the product reaches to customer. Kellogg's should survey the market that uses their brand so; they can know the customer preference and taste.

7. 2 The secondary activities of Porter value chain are procurement, human resource management, technology development and infrastructure.

7. 2. 1 Procurement

It is the process of acquisition of inputs like raw materials, labor, resources required for the firm.

7. 2. 2 Human Resource Management

The HRM department is responsible for hiring, recruiting and selection of people. They are responsible for hiring right capable people. The HRM manager has authority to take any action for employee. The waste can be wrong selection of people by human resource manager. So to avoid these wastes, Kellogg's should have separate department for managing the human resource. The manager should provide training and bring program that helps

the employee. Kellogg's can use flexible work force method where employee are trained to do various job and they can be prevented from boredom.

7. 2. 3 Technological Developments

It is the use of modern technology that helps the organization to get better output. Due to globalization company should have good IT infrastructure. The danger signal can be company may lose their business and increase the cost of operating business. Kellogg's should use latest technology for its business operation like latest machine which help to increase the productivity. Consumer feels easier to do buy online rather going to the shop. So, Kellogg's can use e-commerce for selling their different varieties of output.

7. 2. 4 Infrastructures

It contains all the department and company need required to run the business effectively. The waste can be increase in the cost of operation business if the firm has many departments than required. The effective infrastructure helps to manage the operation of business in an effective way. So Kellogg's should use effective infrastructure for doing the business.